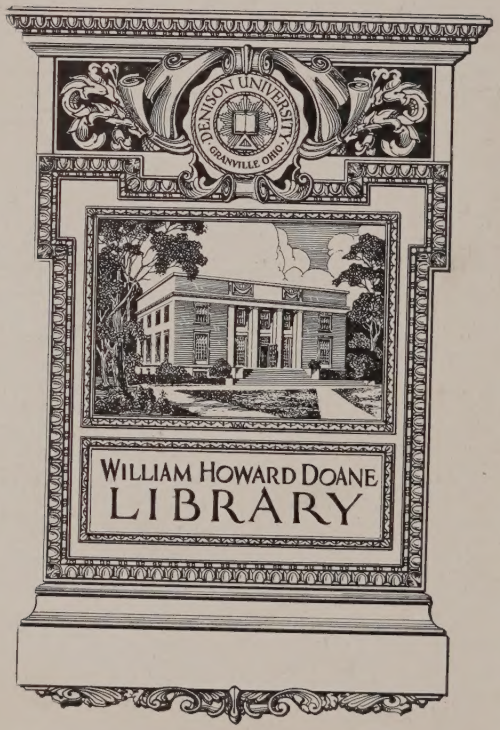


GEO. A. FLOHR CO.
LIBRARY
MAR 1951

WITHDRAWN

New York

THE METROPOLITAN MUSEUM OF ART

CATALOGUE OF THE MUSICAL INSTRUMENTS OF OCEANICA AND AMERICA

BY

FRANCES MORRIS

Assistant Curator, Department of Decorative Arts

75573

NEW YORK
MCMXIV

COPYRIGHT, DECEMBER, 1913, BY
THE METROPOLITAN MUSEUM OF ART

PENNSYLVANIA UNIVERSITY
LIBRARY

THE CATALOGUE OF THE CROSBY BROWN COLLECTION OF MUSICAL INSTRUMENTS HAS BEEN PREPARED UNDER THE DIRECTION OF THE DONOR OF THE COLLECTION, MRS. JOHN CROSBY BROWN.

PREFACE

A PRELIMINARY catalogue of the Crosby Brown Collection of Musical Instruments, tentative in character, was issued in parts as follows: Asia, 1901, 1903; Europe, 1902, 1906; Keyboard Instruments, 1903; Musicians' Portraits, 1904; Historical Groups, 1905; Asia, 1906; Africa, 1907; Oceanica, 1907.

Since the publication of the last of these volumes, the entire collection has been rearranged, many accessions have been made, and much new descriptive and historical material has been accumulated. It is now proposed to issue the final catalogue of the collection in four volumes, embracing material of the preliminary series, revised and enlarged, and grouped in the following order:

Vol. I, Asia and Africa. Vol. II, Oceanica and America. Vol. III, Europe. Vol. IV, Historical Groups and Musicians' Portraits.

Geographical grouping of the instruments has been adhered to in the new volumes as in the preliminary one, and is, in accordance with the classification[1] adopted in 1902 for the European section, which was evolved by the Rev. F. W. Galpin of Hatfield Vicarage, Harlow, England, based on the four types of instruments known to have existed in the ancient civilization of Egypt: stringed instruments, wind instruments, vibrating membranes, and sonorous substances, with their various subdivisions. To facilitate the use of the catalogue in the galleries, a Numerical Index, p. 313 in this volume, has been added, giving the page on which the description of any instrument may be found from its number in the case.

The present volume, Volume II, is the first of the completed work to be issued. It embodies two sections: Oceanica, covering the primitive instruments of those islands in the Southern Pacific, enlarged and amended from the issue of 1907; and America, dealing

1. See page 249.

with the native instruments of that continent and the adjacent islands, now published for the first time.

The preparation of Vol. I is now in hand and will embody a revision of the Asiatic and African sections. This, in time, will be followed by Vol. III, a revised and enlarged edition of Europe, and Vol. IV, which will combine the Historical Groups and Musicians' Portraits.

TABLE OF CONTENTS

PAGE

PREFACE - - - - - - - - - - vii

TABLE OF CONTENTS - - - - - - - - - ix

LIST OF ILLUSTRATIONS - - - - - - - - - xi

INTRODUCTION - - - - - - - - - - xv

PART I OCEANICA

MALAYSIA

JAVA - - - - - - - - - - 3

SUMATRA - - - - - - - - - - 14

BORNEO - - - - - - - - - - 15

CELEBES - - - - - - - - - - 22

PHILIPPINE ISLANDS - - - - - - - - 22

MELANESIA AND AUSTRALIA

NEW GUINEA - - - - - - - - - 27

SOLOMON ISLANDS - - - - - - - - 30

NEW HEBRIDES - - - - - - - - - 36

NEW CALEDONIA - - - - - - - - - 40

FIJI ISLANDS - - - - - - - - - 40

BISMARCK ARCHIPELAGO - - - - - - - 42

AUSTRALIA - - - - - - - - - - 45

POLYNESIA

SANDWICH ISLANDS - - - - - - - - 47

NEW ZEALAND - - - - - - - - - 50

MICRONESIA - - - - - - - - - - 52

PART II AMERICA

NORTH AMERICA PAGE

I. THE INDIAN TRIBES NORTH OF MEXICO - - - 55

1. THE INDIAN TRIBES AND ESKIMO OF BRITISH COLUMBIA, THE NORTHWEST COAST, ALASKA, GREENLAND 55

2. THE INDIAN TRIBES OF THE UNITED STATES - - 104

II. AMERICAN FOLK-INSTRUMENTS - - - - - 185

MEXICO - - - - - - - - - - - 189

CENTRAL AMERICA

GUATEMALA - - - - - - - - - 210

HONDURAS - - - - - - - - - 211

NICARAGUA - - - - - - - - - 212

COSTA RICA - - - - - - - - - 212

WEST INDIES

CUBA - - - - - - - - - - 221

PORTO RICO - - - - - - - - - 222

SOUTH AMERICA

COLOMBIA - - - - - - - - - 225

VENEZUELA - - - - - - - - - 226

BRITISH GUIANA - - - - - - - - 227

PERU - - - - - - - - - - 233

BOLIVIA - - - - - - - - - 240

CHILE - - - - - - - - - - 241

BRAZIL - - - - - - - - - - 242

APPENDIX I CLASSIFICATION - - - - - - 249

APPENDIX II ALPHABETICAL LIST OF LINGUISTIC FAMILIES - 251

NOTES - - - - - - - - - - - 255

BIBLIOGRAPHY - - - - - - - - - 287

NUMERICAL INDEX - - - - - - - - 313

INDEX - - - - - - - - - - - 319

LIST OF ILLUSTRATIONS

OCEANICA

FACING PAGE

ATIVE WITH DRUM (ARPA), NEW GUINEA. FROM A PHOTOGRAPH - 3

TRINGED INSTRUMENTS, JAVA - - - - - - - - - - - - - 6

RUMS, OCEANICA - - - - - - - - - - - - - - - - - - 8

NKLANG, JAVA - - - - - - - - - - - - - - - - - - - 10

ARON, JAVA
ENDER, JAVA - - - - - - - - - - - - - - - - - - - 12

ONANG OR KROMO, JAVA
ARON, JAVA - - - - - - - - - - - - - - - - - - - 14

TRINGED INSTRUMENTS, BORNEO - - - - - - - - - - - 16

NSTRUMENTS OF BORNEO AND SUMATRA - - - - - - - - 20

NSTRUMENTS OF THE PHILIPPINE ISLANDS - - - - - - - 22

LONGOTS PLAYING THE NATIVE DULCIMER, PHILIPPINE ISLANDS. FROM NATIONAL GEOGRAPHIC MAGAZINE, WASHINGTON, D. C., COPYRIGHT, 1912 - - - - - - - 24

NEGRITO PLAYING A NOSE FLUTE, PHILIPPINE ISLANDS. FROM NATIONAL GEOGRAPHIC MAGAZINE, WASHINGTON, D. C., COPYRIGHT, 1912 - - - - - - - - - - - - - 26

DRUMS, NEW GUINEA - - - - - - - - - - - - - - - - 28

PANPIPES, OCEANICA - - - - - - - - - - - - - - - - 32

DRUM GROVE, NEW HEBRIDES. FROM A PHOTOGRAPH - - 38

NSTRUMENTS OF MELANESIA - - - - - - - - - - - - - 40

NOSE FLUTES, BULL-ROARERS, AND TIME MARKER, OCEANICA 44

NSTRUMENTS OF THE SANDWICH ISLANDS - - - - - - - - 46

HULA DANCER MARKING TIME WITH THE ULI ULI, HAWAII. FROM A PHOTOGRAPH - - - - - - - - - - - - - - - 48

NATIVES DANCING THE HULA, HAWAII. FROM A PHOTOGRAPH 50

HULA DANCERS ACCOMPANIED BY THE PA IPU OR HOKEO, HAWAII. FROM A PHOTOGRAPH - - - - - - - - - - 52

AMERICA

FACING PAGE

Pa'-yatamu, Zuni God of Music - - - - - - - - - - 55
Whistles, Indians of the Northwest Coast - - - - - 68
Whistles, Indians of the Northwest Coast - - - - - 76
Reed Instruments, Indians of the Northwest Coast - - 78
Drums of the American Indians - - - - - - - - - - 90
Ceremonial Rattles, Indians of the Northwest Coast 94
Rattles, Indians of the Northwest Coast - - - - - 96
Apache Fiddles - - - - - - - - - - - - - - - - - 106
Bone Whistles and Flutes, North and South America - 112
Altar of the Drab Flute Society, Hopi Indians. Reproduced by Courtesy of the Field Museum of Natural History, Chicago - - - - - - - - - - 118
Flute Ceremony at Oraibi, Reproduced by Courtesy of the Field Museum of Natural History, Chicago 120
Flutes, Indians of the United States - - - - - - - 124
Whistles and Flutes, Indians of the United States - 128
Indian Boy with Flute, Taos Pueblo, New Mexico. Photograph by Fred Harvey. Copyright, 1908, by Fred Harvey - - - - - - - - - - - - - - 146
A Dancing Lesson, Taos Pueblo, New Mexico. Photograph by Fred Harvey. Copyright, 1908, by Fred Harvey - - - - - - - - - - - - - - - - - 152
Rattles of Vibrating Membranes, Indians of the United States - - - - - - - - - - - - - - - - - 156
Instruments of the Seneca Indians - - - - - - - - 162
Snake Priest with Leg Rattle of Pendant Hoofs at Walpi. Photograph by A. C. Vroman - - - - - 164
Antelope Priests in Snake Dance Ceremony at Oraibi. Photograph by A. C. Vroman - - - - - - - - 166
Antelope Priest in Ceremonial Garb of the Snake Dance at Walpi. Photograph by A. C. Vroman - - 168
Gourd Rattles, Indians of the United States - - - - 170
Rattles, Indians of the United States - - - - - - 172
Arapaho in the Costume of the Dog Dance. Repro-

FACING PAGE

DUCED BY COURTESY OF THE AMERICAN MUSEUM OF NATURAL HISTORY - - - - - - - - - - - - - - - 174

IOPI FLUTE PRIEST, WITH BULL-ROARER IN HIS RIGHT HAND. PHOTOGRAPH BY A. C. VROMAN - - - - - - 178

NOTCHED STICK RATTLES, AMERICAN TYPES - - - - - - 184

BANJOS, AMERICAN FOLK INSTRUMENTS - - - - - - - 186

APOTEC POTTERY, BELLS AND WHISTLES, MEXICO - - - 198

POTTERY WHISTLES, MEXICO - - - - - - - - - - - - 200

POTTERY RATTLES, MEXICO - - - - - - - - - - - - 206

POTTERY WHISTLES, COSTA RICA - - - - - - - - - - 214

POTTERY WHISTLES, COSTA RICA - - - - - - - - - - 216

STRINGED INSTRUMENTS, YUCATAN, MEXICO, AND SOUTH AMERICA - - - - - - - - - - - - - - - - - - 226

POTTERY TRUMPETS, PERU - - - - - - - - - - - - - 236

INSTRUMENTS OF SOUTH AMERICA - - - - - - - - - - 240

MAP OF LINGUISTIC FAMILIES - - - - - - - - - - - 334

INTRODUCTION

Part I. OCEANICA. The present volume deals with the instruments of Oceanica, which are arranged under four heads: Malaysia, Melanesia and Australia, Polynesia, and Micronesia.

In the first of these groups, MALAYSIA, the exhibits of the various islands are placed in the following order: Java, Sumatra, Borneo, Celebes, and the Philippines.

JAVA. With the Javanese, music has reached a stage of development which quite surpasses that of the other arts. This is demonstrated not only by the care expended in the manufacture of their instruments, but more particularly in the number and variety of their orchestras, which are a marked feature in the life of the people. In the instruments of these islanders the four general classes are represented: I, Stringed Instruments; II, Wind Instruments; III, Vibrating Membranes; IV, Sonorous Substances. Among the stringed instruments perhaps the most typical is the *tjlempoeng*, a form of psaltery mounted with wire strings and supported on a carved base. Other examples of this class are the *keljapi*, also of the psaltery type; the *tarawangsa* and *rebab* of the viol type, the latter probably introduced from Arabia. Other stringed instruments are a form of lute, and two cylinders of wood and bamboo strung with wire strings. These latter resemble the *marouvane* of Madagascar. The single wind instrument shown is the *souling*, a bamboo flute. Of drums, however, there are several varieties: the large signal or war drum, found in its more primitive form in the tree drums of the New Hebrides; others of cask shape, with a single head of membrane, sometimes used to accompany the *anklang*, the curious bamboo "shaking" instrument from which these islanders elicit weird melodies. In Javanese music, like other music of the Orient, the sonorous substances predominate; and the xylophones and gongs form an important part of the various orchestras.

SUMATRA. There is but one example from this island, the *biola* or *mijue mijue*, a delicately carved instrument shaped like a boat and mounted with two gut strings.

BORNEO. In this island the *marouvane* is found again; here it is called the *yang kong*, *satong* or *yadok*, and is popular among the Dyaks. Less primitive are the *blikan* or *djimpai* and the *safê*, both examples of the lute type with long, boat-shaped bodies similar to some of the stringed instruments found on the peninsula, a form peculiar to this part of the world. The viol type is illustrated by the *serunai*, usually made from a cocoanut shell and suggestive of the Mohammedan fiddles of northern Africa.

The bamboo flutes, which are found everywhere in this district, are here supplemented by several varieties of mouth organs with free reeds, primitive forms of the *cheng* of China and the *sho* of Japan; these have upright pipes, which are sometimes fitted with covers. The drums of Borneo are of a form peculiar to the island. They are carved from a log of wood, small at the center and expanding at the ends, with a single membrane head. The jews' harp, so popular in these parts, is here represented both in bamboo and metal, and bears the names *aping*, *rudieng*, and *garoeding*. As in Java, the gong is much used, and was probably introduced by the Chinese.

PHILIPPINE ISLANDS. With the exception of the gongs, which are distinctively Oriental, the Philippine instruments show decided traces of Spanish influence. The jews' harp, and, among the strings, the bamboo psaltery resembling the *marouvane* are the only primitive instruments, the harps and guitars being from European models. One instrument peculiar to these islands is the bamboo horn, in form resembling the European cornet and tuba, varying in size from the soprano to the large double bass.

Under MELANESIA, with which is combined the continent of Australia, the following subdivisions are made: New Guinea, Solomon Islands, New Hebrides, New Caledonia, Fiji Islands, and the Bismarck Archipelago.

NEW GUINEA. From this group of islands there is but one example of a stringed instrument, a curious, boat-shaped body with a raised deck at each end suggestive of the Malay trading boats. The strings are missing, and, if played with a bow, that too has long since disappeared. With the exception of the bamboo flutes and panpipes, of which there is a great variety, there are few wind instruments from any of these islands. The typical form of drum resembles those of Borneo. The drum is cut from a log, smaller at the center and flaring at the ends. In the drums of New

Guinea, however, the open end is carved to represent the open jaws of a crocodile, and where there is decoration, the carving is often whitened with lime, a staple article of household use. The jews' harps are of bamboo and resemble those of the other islands.

Solomon Islands. In this group but three classes, stringed instruments, wind instruments, and sonorous substances, are represented. Of the first there is the *kolove* or musical bow, and another form made from a tube of bamboo with two fibre strings. The wind instruments are numerous, chiefly panpipes and bamboo flutes, while Class IV, Sonorous Substances, is illustrated by jews' harps, drums, and shell rattles. One of the drums, a small tube of bamboo, is carried by women to announce their approach on the occasion of ceremonies from which they are excluded. It is the same as that carried by the night watchmen in China.

New Hebrides. Only instruments of the most primitive form are found in these islands, the exhibit comprising mainly panpipes and flutes, with an occasional musical bow. There is little or no decoration except such as may be found in the plaiting of the fibre braids that hold the panpipes together, or the crude designs etched in the flutes with a heated point. There is, however, one fine example of the huge drums which form a part in the equipment of every native village. This measures seven feet in height and weighs six hundred pounds.

New Caledonia. From this island the collection contains only wind instruments which are quite different from those of adjacent islands, showing a rather more advanced state of civilization.

Fiji Islands. The exhibit from Fiji consists only of a couple of nose flutes and two drums. The latter are called *lalis;* they are cut from blocks of wood and are similar to those used in some parts of Africa.

Bismarck Archipelago. In the collection from these islands there is no stringed instrument, except a violin of unvarnished wood made after the European model. Kraus,[1] however, describes a musical bow from New Britain (Neu Pommern) which seems more closely allied to those of Africa than the flat bamboo form of the neighboring islands; the native name of this, he states, is *a-pagola.* This has two strings, the upper one regulated by a loop of cord passing over the second string. One end is placed in the mouth and the string is struck with a small wisp of wood held in the right hand, while the thumb and forefinger of the left hand regulate the tension. This was originally played only by the women, but it is no longer used, having been supplanted by the modern jews'

1. Di Alcuni Strumenti Musicali, p. 4.

harp introduced by European trade. There are also the bamboo flutes and panpipes, similar to those already described, and the *kulepa ganeʒ* or "rubbing instrument" of New Ireland, by far the most interesting specimen from this group of islands. In this the sound is produced by moistening the hands with the juice of the bread fruit and rubbing the surface of a block of wood; by this process three distinct notes can be produced. An interesting drum from the Admiralty Islands is shown, which, except for its decoration, resembles the *lalis* of the Fiji Islands.

Australia. Perhaps the most striking feature of the exhibit from this continent is the dearth of material. With the aborigines of this land the musical instinct seems to be almost lacking, and only the crudest forms of instruments are found, many of which are used simply to mark the rhythm of the native airs: this, according to Wallaschek,[1] is always strongly marked and very regular.

In Polynesia but two groups of islands are represented—the Sandwich Islands and New Zealand.

Sandwich Islands. The Hawaiian Islands are well represented by a number of typical musical instruments. The *ukeke*, or musical bow, is indigenous; while the *ukulele*, a small guitar, sometimes called the "taro-patch fiddle," was introduced by the Portuguese. The *hano* or *kio-kio*, a signal whistle made from a gourd and employed by lovers, is similar to many others of the same type, and finds its parallel in the pottery whistles of Mexico and China. The nose flute is also shown, as are the drums and rattles which accompany the *hula*, or native dance.

New Zealand. Here the most interesting specimen is the *putorino*, the Maori flute, a curious instrument ornamented on one side with a grotesque carving that suggests the masks employed in the ancient amphitheatre. The native carving is remarkable not only in design, but also in technique, and the few pieces exhibited are fine examples of the art.

From Micronesia there is but one specimen, a large drum, shaped from a log of wood in the form of an hour glass, with a single head of skin fastened in a groove with a cord.

It only remains to add that, with the advance of civilization, it is becoming more and more difficult to obtain types of primitive instruments; and while the present collection is far from complete, it is the hope of the donor that from time to time additional examples may be found which will be of value to those who are interested in this field of research.

1. Wallaschek. Primitive Music, p. 39. N. Y. 1903.

Part II. America. This part of the collection is arranged in five groups: North America, Mexico, Central America, West Indies, South America.

The instruments of North America are arranged under two general heads: I. Instruments of the Indian Tribes north of Mexico; II. American Folk-instruments. Under Group I, which includes the fifty-eight linguistic families[1] covering all the minor tribes north of Mexico, such a diversity of type exists between the tribes of the United States and those located in British Columbia and along the Northwest Coast, that Group I has been subdivided, as follows: 1. The Indian tribes and Eskimo of British Columbia, the Northwest Coast, Alaska, and Greenland; 2. The Indian Tribes of the United States.

Under the first subdivision, the Indian tribes and Eskimos of British Columbia, the Northwest Coast, Alaska, and Greenland, six linguistic families are represented:

1. *The Eskimauan,* whose territory covers some five thousand miles, extending from Greenland on the east to Alaska on the west. The tribes under consideration occupy Alaska, the Aleutian Islands, and the Asiatic coast of Bering Strait.
2. *The Koluschan or Tlingit* occupy the coast from the Atna River on the north to the Portland Canal on the south.
3. *The Skittagetan or Haida* inhabit Queen Charlotte Islands, Forester Islands, to the north of the latter, and the southeastern part of Prince of Wales Island.
4. *The Chimmesyan,* found on the mainland adjacent to the Queen Charlotte Islands, around the mouth of the Skeena River.
5. *The Salishan* occupy the eastern coast of the lower half of Vancouver Island and the opposite mainland.
6. *The Wakashan* inhabit the western part of Vancouver Island and the mainland between the Chimmesyan on the north and the Salishan on the south.

The culture developed by these tribes shows marked individuality, and their instruments require special classification. That adopted is the same used in other sections of the catalogue, except that under wind instruments the classes have been amplified to meet the requirements of the various types. Mr. Galpin,[2] who made a special study of these wood winds, has worked out a classi-

1. For list of Linguistic Families see p. 251. Also for special articles on the various tribes that compose the families, see Handbook of the American Indians. Bur. Amer. Ethnol., Bul. 30, 2 vols. Washington, 1907–1910.

2. The Whistles and Reed Instruments of the American Indians of the Northwest Coast. Proceed. of the Musical Assn. 29th Session. Lond. 1902–1903.

fication which, with his consent, has been adopted in cataloguing this part of the collection; this classification is given on p. 58.

While there are many examples of drums and rattles, as is usual among primitive peoples, the string type is sparsely represented, only the lute form being shown in a few crude examples which doubtless owe their presence in this region to Russian immigration.

Among the tribes of the United States, the second subdivision of the first group, quite different types prevail. As with all primitive peoples, we find a preponderance of rattles and drums, the stringed and wind instruments showing less variety. Where in Africa the natives have both the musical bow and many forms of harps, the North American Indians have no stringed instruments save a musical bow, yet to be proved indigenous, and a rude form of fiddle found only in one tribe. This may be due to the fact that the vegetation of a tropical climate lends itself more aptly to the fabrication of string forms, as, for instance, the bamboo and palm wood with their fibrous bark used in the *marouvane* of Madagascar and the *muet* of Africa, and the delicate tendrils and roots of tropical vegetation which furnish the strings for the primitive harps of the African savage, whereas the instruments of the North American Indians, who have been reared under different climatic conditions, show none of these forms. Owing to the various sources from which these instruments have been gathered, it has been impossible in many instances to state the exact provenance of individual specimens, but by comparison with collections in other museums it has been possible to identify the greater number of them.

In the second main group, American Folk Instruments, the banjo of the plantation slave life holds a prominent place; this, with the "bones" or clappers, formed the accompaniment to all plantation melodies and the clog dance of the southern negro. Under Folk Instruments also have been classed the gourd mandoline of the Georgia "Cracker,"[1] the cornstalk fiddle, and such other forms as find their parallels in the peasant types of Europe.

The illustrations in the codices of Old Mexico show the few forms in use among the people of that ancient civilization. At that period we find the conch-shell trumpet, the *teponaztli*, a horizontal drum still in use among the Aztecs, and the tortoise-shell drum of which the Museum has a specimen from Nicaragua. That the natives of that period had a knowledge of a musical scale is evidenced by the presence of finger-holes in many of the pottery whistles and flutes that excavation has brought to light in recent

1. Term applied to the poor white element dwelling among the mountains of the South.

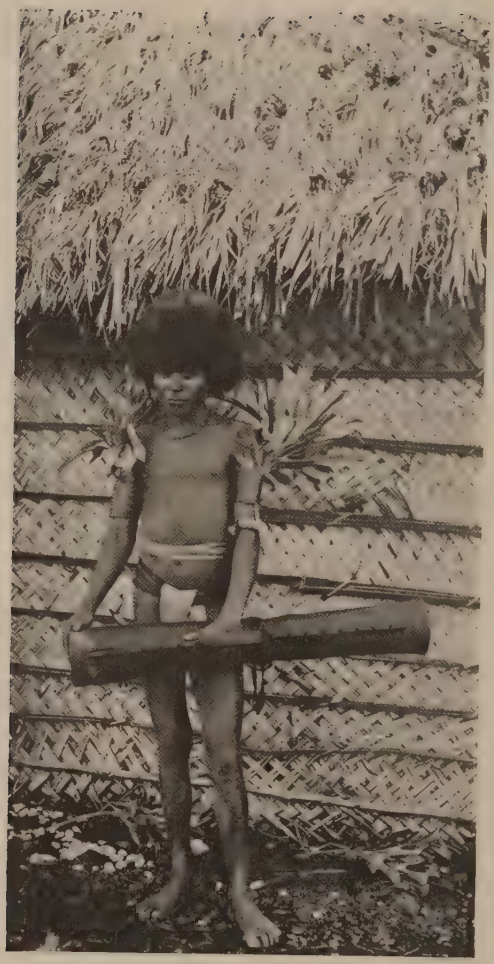
years. These types are variously represented in the Mexican exhibit and are by far its most interesting feature. The modern types of instruments are either the primitive forms found among the Indians or those of markedly Spanish origin,—as for instance, the small guitar quite as popular here as in the Philippines.

In Central America perhaps the most interesting exhibit, aside from the pottery whistles in which the collection is especially rich, is the tortoise-shell drum from Nicaragua already referred to. There are also various other forms of drums, some of which resemble those of Africa. In the West Indies traces of African types are also discernible, especially in the musical bow with its gourd resonator, and the various forms of rattles. This, however, is not true of the *guiro*, a rattle peculiar to this section, made sometimes of gourds and often of tin, which illustrates a variant of the notched-stick rattle found in many parts of the globe.

The South American exhibit, while covering many types gathered from a vast area, in many instances almost inaccessible, is as yet far from complete, there being still many districts unrepresented. Of special interest in this section are the pottery trumpets and whistling jars, a Bororo funeral trumpet, trumpets of gourd and basket-work from British Guiana, and bone flutes from tribes in the interior.

In conclusion the collector desires to express her gratitude to those who have coöperated with her in collecting the necessary information: Mr. E. H. Hawley of the U. S. National Museum, Washington, whose catalogue of musical instruments has been invaluable in furnishing native names; Dr. Walter Hough of the same institution for his interest and his help with many matters relative to the Indians of the Southwest; Lieutenant G. T. Emmons for his cordial assistance and information regarding the Indians of the Northwest Coast; the staffs of the American Museum of Natural History, New York; the Peabody Museum, Harvard University, Cambridge, Mass.; the Field Columbian Museum, Chicago; the Museum of the University of Pennsylvania, and the Academy of Natural Science of Philadelphia, who with uniform courtesy have rendered every assistance in their power.

The Numerical Index, p. 313, gives the page on which the description of any instrument may be found from its number.



NATIVE WITH DRUM (ARPA), NEW GUINEA
FROM A PHOTOGRAPH

MALAYSIA

JAVA

CLASS I STRINGED INSTRUMENTS

760 A wooden cylinder, painted red, the ends closed and one side flattened. Two wire strings pass through holes in the side to pegs inserted in the end of the body. Two small movable bridges for each string. Two soundholes. Length, 1 foot 5½ inches. Diameter, 7¼ inches. Section A Plucked Strings

734 Similar to No. 760, but made of bamboo. Originally two wire strings; one missing.
Length, 2 feet 2 inches. Diameter, 4½ inches.

758 PSALTERY. *Ketjapi* or *Kachapi*. A boat-shaped body of wood, painted red, with a flat top, the ends projecting above the soundboard. Nine wire strings pass through holes pierced diagonally across the soundboard to the interior, where they are wound about tuning-pegs which project at the side.
Length, 2 feet 9 inches. Width, 4½ inches. Depth, 7¼ inches.
cf. *Patola* illustrated by Clement. Histoire, p. 158. Mahillon. Catalogue, vol. 1, p. 194. Crawfurd. History, vol. 1, p. 335. de Wit. Facts and Fancies, p. 152.

757 PSALTERY. *Ketjapi*. Similar to No. 758. Sixteen wire strings, eight wooden pegs.
Length, 3 feet 2½ inches. Width, 10 inches. Height, 8 inches.

Class I Stringed Instruments Section A Plucked Strings

Land[1] considers the *ketjapi* and the *tarawangsa* of evident Hindu origin.

1311 PSALTERY. *Tjelempoeng* or *Chelempung.* A quadrangular wooden sound-box, resting on a carved stand, decorated in red, green, and gold. On one side a coat of arms and the letter W surmounted by a coronet. Twenty-six wire strings. A flat scroll at one end holds the strings, and from this they pass, over a high, thin metal bridge, placed diagonally across the center of the case, to the opposite end, where they are fastened.

Length, 3 feet 4 inches. Height at one end, 1 foot 8 inches; the opposite end, 8½ inches. The sound-box tapers from 1 foot 5½ inches to 8½ inches at the lower end.

The performer sits at the lower and narrow end of the instrument, the soundboard rising at an angle before him. The strings are put in vibration by the thumbs, the fingers serving as dampers. It is used in the *Gamelan Salendro,* also in the *Gamelan Pelog,* and is one of the instruments that carry the melody.[2]

The *Gamelan Salendro* and the *Gamelan Pelog* are two of the seven orchestras into which the instruments of this country are divided. Each of these is arranged for a certain class of native music dependent upon the occasion or the hour of the day at which it is to be played. The orchestras are as follows:

The *Gamelan Manggang:* This is the most ancient, and, from its lack of harmony, is sometimes called the *Gamelan Kodok Ngorek,* or 'croaking of frogs.' This is used at public processions and has fewer instruments than some of the others.

The *Gamelan Salendro:* This has the greatest variety of instruments and is in every way the finest of the seven groups.[3]

Raffles[4] names seventeen instruments as composing the *Gamelan Salendro.* These are illustrated in his Description Géographique, as follows:

Gambang Gangsa: xylophone, with 15 bars.

Gambang Kayu: with 17 bars.

1. De Gamelan, p. 3.
2. Groneman and Land. De Gamelan, p. 39. Mahillon. Catalogue, vol. 3, p. 345.
3. Groneman and Land. De Gamelan, p. 7.
4. Description Géographique, p. 282.

Bonang, or *Kromo:* ten gongs in a frame.
Gender: similar to *Gambang.*
Saron: a small xylophone with five bars.
Demong: the same with 7 bars.
Selantan: the same with 10 bars.
Kecher: a wooden standard with two cymbals.
Gongs: two hung in a frame.
Kenong: a large gong on a square stand.
Ketuk: the same, but smaller.
Kumpul: a gong hung in a frame.
Ketipung: a drum with two heads.
Kendang: a drum with two heads supported on a frame.
Chelempung: a form of psaltery.
Suling: a flute with six holes.
Rebab: a fiddle.

The *Gamelan Pelog:* This resembles the *Gamelan Salendro,* but while the instruments are larger and heavier they have smaller compass.[1]

The *Gamelan Miring:* Similar to the *Salendro* and *Pelog.* These three, *Salendro, Pelog,* and *Miring,* accompany dramatic performances.[1]

The *Gamelan Choro Bali:* In this group the *rebab* is omitted. In other respects it is similar to the *Gamelan Salendro,* its instruments being large and of heavy tone like those of the *Gamelan Pelog.*

The *Gamelan Sakaten:* In this group the instruments are higher and heavier even than those of the *Gamelan Pelog;* it is used only on the most solemn occasions and in the presence of royalty.

The seventh group is the *Srunen,* the martial music, which includes trumpets or other wind instruments.[2]

The Javanese orchestra at the Paris Exposition, 1900, called the *Gamelan Goedjin,* was made up as follows:

One *kromong;* one *gambang;* one *benong,* similar to the *gambang,* but with metal bars; two *penneros,* a large gong suspended in a frame; one *kempoel,* a small gong; one *guendang,* a drum.[3]

The native melodies of the Javanese are based upon two scales: one a pentatonic, called *salendro,* and the other a heptatonic, called *pelog.* The music is divided into

1. Groneman and Land. De Gamelan, pp. 9–11.
2. Tagore. Hindu Music, p. 302. Raffles. Description Géographique, p. 282. Crawfurd. History, vol. 1, pp. 338, 339.
3. Gautier. Les Musiques Bizarres, pp. 7, 8.

Class I Stringed Instruments Section A Plucked Strings

groups adapted to the different orchestras, and again subdivided for the scales; certain selections, based upon certain notes, can be played only at stated hours of the day or night. These traditional rules are adhered to rigidly, the Sultan alone having the power to change them.

1491 A flat, boat-shaped body cut from a solid block of wood, painted in red and green. A carved neck with five knobbed frets extends in a ridge along the center of the body, and terminates in a circular block near the lower edge. Two wire strings.
Length, 3 feet 3 inches. Width, 4½ inches.

Section C Bowed Strings[1]

728 REBAB. A flat, pear-shaped body with wooden sides; the back covered with cloth edged with tinsel, the front with parchment. A long wooden neck, tapering to a point and ornamented with turned bands. On the lower side a projecting foot. Two long string pegs. Strings missing.
Length, 3 feet 10 inches. Diameter, 6½ inches.
cf. Mahillon. Catalogue, vol. 2, p. 177; vol. 3, p. 342. Raffles. Description Géographique, p. 281.
The *rebab*, although of Persian origin, plays an important part in the native orchestras. It was probably introduced by the Arabs, who invaded Java in 1406, and there established the Mohammedan religion.[2]
Mr. Balfour,[3] quoting Mr. W. W. Skeat, furnishes the following note in regard to the word *rebat:* "The *rebat* is merely a loose pronunciation of *reba*—more strictly *geba*—which is the Patani-Kelantan form of *rebab* or *harebab*, the Malay fiddle. Certain final consonants, e.g. 'b,' 'p,' 'k,' etc., are broken down into a mere 'click' in the Patani-Kelantan dialect, and *rebat* is merely a loose pronunciation of this—*rebab*. A further note by the editor states that the word is not Malay, but Arabic, probably having come originally from North Africa or Turkey.

730 TARAWANGSA or TRAWANGSA. An oblong wooden box, the upper edge carved and gilded, the front of

1. Section B. Struck Strings not represented.
2. Larousse. Vol. 9, p. 921. Crawfurd. History, vol. 1, p. 335; vol. 2, p. 259.
3. Fasciculi Malayenses, p. 11.

STRINGED INSTRUMENTS, JAVA
PP. 6, 7

parchment, held in place by strips of split rattan. A long, straight neck, the end carved in a simple scroll, with three long, straight pegs, and three silk strings. Circular bridge made from a section of bamboo. A carved wooden bow strung with a loose strand of horsehair.

Class I Stringed Instruments Section C Bowed Strings

Length, 2 feet 10 inches. Diameter, 5 inches. Bow, 2 feet 1 inch.

cf. Mahillon. Catalogue, vol. 2, p. 160; vol. 3, p. 341. Fétis. Histoire, vol. 1, p. 90.

733 TARAWANGSA. Similar to No. 730, but with an oval body hollowed out of a block of wood. Three brass strings. The bow a bent stick strung with horsehair.

Length, 2 feet 10 inches. Width, 5 inches. Bow, 2 feet 1 inch.

CLASS II WIND INSTRUMENTS

731 VERTICAL FLUTE. *Souling.* Lowest note E. A tube of bamboo decorated with burnt lines and dots. A small square hole in the side at the upper and closed end. A strip of split rattan bound around the top forms an air channel to direct the wind against the lip of the square hole just below. Six finger-holes.

Section A Whistles 1. Vertical Flutes

Length, 1 foot 7½ inches. Diameter, ⅝ inch.

While some authorities classify the *Souling* as a nose flute, Groneman,[1] in his treatise on the instruments of the Gamelan, describes it as follows: "The mouthpiece is slightly sloping, cut off on the under side; and this is the only part that touches the lips when it is used." The custom, prevalent in these islands, of blowing the flute with the nostril rather than the lips, may be traced, in Java, to the conquest of the island by the Hindus. Crawfurd[2] states: "That the Hindus and their religion existed in Java from the end of the thirteenth century to that of the fifteenth century is a matter of certainty proved by monumental dates entirely reliable."

Engel[3] refers to the origin of the nose flute as follows: "In Hindustan the use of the nose flute originated in the religious doctrine of the Brahmins that a person of

1. De Gamelan, pp. 32, 33.
2. History, vol. 2, p. 185.
3. Catalogue, p. 166.

Class II Wind Instruments Section A Whistles 1. Vertical Flutes

superior caste is defiled by touching with his mouth anything which has been touched by the mouth of an inferior."

Crawfurd[1] describes the Javanese flutes as follows: "The *suling* (*soeling*) and *serdum* are sorts of flutes or fifes in use among the Malay tribes, played alone and never in a band. . . The fife or flute they acquired from the Hindus, as its Sanskrit name *bangsi* points out. Trumpets they acquired from the Persians and Europeans, as we learn from their names *nafiri* and *salompret*. Mahillon[2] mentions four different forms of the *souling:* one with four holes used in the *Gamelan Salendro;* one with four holes used in the *Gamelan Pelog;* one with five holes used in the same orchestra; and one with six holes for use with either of the two scales.

729 VERTICAL FLUTE. *Souling.* Similar to No. 731. Lowest note E flat. Six finger-holes.
Length, 1 foot 8 inches. Diameter, ⅜ inch.
Described by Mahillon as a nose flute. Catalogue, vol. 1, p. 408.

732 VERTICAL FLUTE. *Souling.* Similar to No. 731. Lowest note D. Six finger-holes.
Length, 1 foot 10 inches. Diameter, ¼ inch.

1383 VERTICAL FLUTE. *Souling.* Similar to No. 731. Lowest note A. Six finger-holes.
Length, 2 feet 4 inches. Diameter, 1¼ inches.

736 WHISTLING TOP. A slender cylinder of wood, with a slit on one side and a wooden peg at each end.
Length, 9 inches. Diameter, 2 inches.
A similar specimen from the island of Nias in the National Museum at Washington, D. C., is labeled *gissang* or *garsing.*
Elsdon Best[3] of Tuhoe-land, New Zealand, describes an ancient custom of the Maoris in which humming tops were used as an accompaniment to the dirge or lament chanted when a tribe had been defeated in battle: "A dirge or lament (*tangi*) would be composed in the form

1. History, vol. 1, p. 334.
2. Catalogue, vol. 3, pp. 307, 309.
3. Journal of the Polynesian Society, vol. 11, p. 153. Wellington, N. Z., 1902.

DRUMS, OCEANICA
PP. 9, 21, 40, 44, 45, 52

of a *whakaoriori potaka* (song sung while tops are being spun). The people would collect in the *marae* (plaza), many of them being provided with humming tops (*potaka takiri*). The *tangi* would be commenced, and at the end of each couplet all the tops were started spinning at the same time, the result being a weird moaning hum which is said to be a lament in itself, being not unlike the singular moaning sound made by the natives when mourning for the dead."

CLASS III VIBRATING MEMBRANES

831 DRUM. A tube of bamboo with a head of snake-skin held in place with strips of split rattan laced to a braid of the same tightened by wooden wedges.
Height, 1 foot. Diameter, 3½ inches.

Division I Struck Section A Drums 1. With one head

750 DRUM. A tube of bamboo, the head of skin held in place by strips of fibre fastened to a braided rope of the same. The tension regulated by wooden wedges.
Height, 2 feet 2½ inches. Diameter, 4 inches.

724 DRUM. Similar to No. 750, but cut from a tree trunk and painted red and green with a band of gold around the base.
Height, 2 feet 1 inch. Diameter, 6½ inches.
This form of drum is used to accompany the *anklang*, No. 3572.

725 DRUM. Similar to No. 724.
Height, 1 foot 11½ inches. Diameter, 6½ inches.

752 DRUM. *Ketipoeng*. A cask-shaped shell of wood with heads of skin held in place by wooden hoops laced together at the sides with strips of fibre. Two holes in one side and a rope of twisted fibre.
Height, 1 foot 7 inches. Diameter, 10½ inches, tapering to 9¼ inches.

2. With two heads

The *ketipoeng* is one of the instruments used in the *Gamelan Salendro*. The beater is made of a stick with one or both ends covered with a ring of leather. The *kendang* is similar in form, but of larger dimensions, and is placed on a wooden support in front of the performer

Class III Vibrating Membranes Division 1 Struck Section A Drums 2. With two heads

or held in his lap. This drum is struck either with the palm or the fingers of the hand, the right hand giving the louder tones, the left, the softer ones.[1]

Still another drum is the *bedoeg*, a large, cylindrical shell suspended in a wooden framework. The beater used with this has a spherical head covered with leather or canvas.[2]

CLASS IV SONOROUS SUBSTANCES

Division 1 Struck

775 SIGNAL DRUM. A quadrangular body cut from a tree-trunk, with a long narrow opening in one side. At the top a carved ornament decorated in red, green, and gold.
Height, 5 feet 1½ inches. Diameter, 8½ inches.
The prototype of this drum is found in the large tree drums of New Hebrides.

776 TJALANG. Eleven tubes of bamboo strung on two cords.
Longest tube, 2 feet 6 inches. Diameter, 2 ¾ inches.
Shortest tube, 1 foot 2 inches. Diameter, 1 ¼ inches.
cf. Mahillon. Catalogue, vol. 2, p. 160. Chouquet. Catalogue, Supplement 1894, p. 69.
In playing this instrument it is hung on the branch of a tree and struck with wooden sticks. A similar form is found on the island of Nias; it has three tubes, and is called *doli*. Rijks Ethnographisch Museum Coll., Leiden, No. 1002.59.
According to Land,[3] who quotes Howell, the *tjalang*, like the *ketjapi* and *tarawangsa*, should be classed among those instruments developed under foreign influence, it being closely allied to the *ranat* and *pattala* of Siam and Burmah.

3572 ANKLANG. An upright frame with an arched top made of a narrow strip of bent wood with its ends inserted in a tube of bamboo. Three tubes of bamboo with one side of the upper ends cut away, hung loosely on cross-bars, the

1. Groneman and Land. De Gamelan, p. 32. Raffles. Description Géographique, p. 282.

2. Groneman and Land. De Gamelan, p. 42.

3. De Gamelan, pp. 3, 4.

ANKLANG, JAVA

NO. 756, P. 11

ends resting in openings cut in the lower part of the frame. A fringe of colored grass across the top.
Height of frame, 5 feet. Width, 1 foot 10 inches.
Longest tube, 1 foot 10 inches; diameter, 4 inches; total length of bamboo, 4 feet 4 inches. Middle tube, length, 11½ inches; diameter, 2½ inches; total length, 31½ inches. Shortest tube, length, 6 inches; diameter, 1¾ inches; total length, 16 inches.

573 ANKLANG. Similar to No. 3572.
Height of frame, 4 feet 8½ inches. Width, 1 foot 10¼ inches. Longest tube, 1 foot 7 inches; diameter, 3¼ inches; total length, 4 feet. Middle tube, length, 10 inches; diameter, 2½ inches; total length, 2 feet 4 inches. Shortest tube, length, 5¼ inches; diameter, 1¾ inches; total length, 1 foot 3 inches.

574 ANKLANG. Similar to No. 3572.
Height of frame, 4 feet 3 inches. Width, 1 foot 9¾ inches. Longest tube, 1 foot 5 inches; diameter, 3¾ inches; total length, 3 feet 7 inches. Middle tube, length, 8½ inches; diameter, 2¼ inches; total length, 2 feet 1½ inches. Shortest tube, length, 4½ inches; diameter, 1½ inches; total length, 1 foot 1½ inches.

575 ANKLANG. Similar to No. 3572.
Height of frame, 4 feet ½ inch. Width, 1 foot 9¾ inches. Longest tube, 1 foot 2½ inches; diameter, 3 inches; total length, 3 feet 4 inches. Middle tube, length, 7¼ inches; diameter, 2 inches; total length, 1 foot 10 inches. Shortest tube, length, 3¾ inches; diameter, 1½ inches; total length, 1 foot.

756 ANKLANG. A wooden frame of two standards with carved heads and a cross-bar on which are hung eleven small frames similar to No. 3572.
Width of frame, 6 feet 2 inches. Height, 2 feet 6 inches.
cf. Mahillon. Catalogue, vol. 2, pp. 2, 160; vol. 3, p. 272. Fétis. Histoire, vol. 4, p. 91. Chouquet. Catalogue, p. 133.
In playing this instrument the sound is produced by shaking the frame, the ends of the loose pipes striking against the edges of the openings in the bamboo cross-bar in which they rest. Tagore[1] states that the *anklang* "is

[1] Hindu Music, p. 298.

Class IV
Sonorous
Substances
Division 1
Struck

confined to the mountaineers of Java, particularly those of the western end of the island. . . . A troupe of forty or fifty mountaineers will be seen dancing in wild and grotesque attitudes, each individual playing upon an *angklung*, himself and his instrument decked with feathers." Raffles[1] also describes the instrument as the *angklung*.

Land[2] refers to the *angkoeng* as a popular instrument.

1462 XYLOPHONE. *Saron.* A dragon of carved wood supporting on its back seven bars of wood, usually a species of pyrus.

Length, 4 feet. Height, 3 feet. Width, 1 foot 3 inches.

cf. Mahillon. Catalogue, vol. 2, p. 131. Groneman and Land. De Gamelan, p. 32.

There are usually four *sarons* in the *Gamelan Salendro*: the *saron* proper, the *saron demoeng*, the *saron selento*, and the *saron peking*. A fifth, the *saron tjeloering*, is used only in the *Gamelan Pelog*. These differ only in the diapason of their notes.[3]

Quoting from an article on the Musical Instruments of the Javanese printed in the Journal of the Society of Arts[4]: "In the *sarons* of the *Gamelan Salendro* the notes are in groups of six for each instrument, each being a complete octave interval, and the *sarons* in sequence range over three octaves, with the pentatonic intervals. The highest is called the *saron peking salendro*, the next *saron allete salendro*, and the lowest the *Saron demoeng salendro*. For the *Gamelan Pelog* there are similarly three *sarons*, but in groups of seven notes each. . . . The *sarons* are played with *tapoos;* those of the *demongs* are padded, those for the *alletes* and *pekings* are mallet-shaped and of hard wood."

In speaking of this class of instruments, Tagore, quoting from Crawfurd, says: "The last class of instruments of percussion are the *staccados*, in the Javanese language called *gambang*. These are of greater variety than any of the rest. The first I shall mention is the wooden *staccado*, or *gambang kayu*. This consists of a certain

1. Description Géographique, p. 280. See also Crawfurd. History, vol. 1, p. 334.
2. De Gamelan, pp. 4, 19.
3. Mahillon. Catalogue, vol. 3, pp. 269–271.
4. vol. 30, p. 1020.

SARON, JAVA

NO. 1,462, P. 12

GENDER, JAVA

NO. 1,461, P. 14

number of bars of a hard sonorous wood of graduated lengths, placed over a wooden trough or boat, and struck with a little hammer. This instrument is common throughout every part of the Archipelago, particularly among the Malay tribes, and is often played alone. The second kind of *staccado* resembles this, differing from it only in having the bars made of metal instead of wood.

"They each assume different names in the copious language of Java, according to the number of bars, or notes, or other modification of their construction."[1]

1463 XYLOPHONE. *Saron.* A block of wood carved in the form of a crouching animal supporting seven strips of wood on its back.
Length, 3 feet ½ inch. Height, 1 foot 10 inches.

777 BONANG BAROENG or KROMO. Ten metal gongs arranged in two rows suspended on cords in a quadrangular frame of carved wood resting on four feet.
Length of stand, 3 feet 7 inches. Width, 1 foot 9 inches. Height, 10 inches. Diameter of gongs, 5 inches. Depth, 3 inches.

In the *Gamelan*, where the melody is not carried by the *rebab* or by the *soeling*, it is taken by the *bonang*. Sometimes three are used, named according to their size respectively: *bonang-penemboeng*, *bonang-baroeng*, and *bonang-peneroes;* these are tuned an octave apart.[2]

3622 BELL. Bronze. Cone-shaped with a pointed finial and a triangular base. The surface ornamentation consists of parallel lines and a band of ornament in relief near the top.
Height, 7½ inches. Diameter, 4 inches.

3623 GONG. Bronze, slightly conical in form with flattened sides, the metal worn through on one side. An indistinct pattern etched on the surface. Open at the base and at the top.
Height, 5⅜ inches. Diameter, 5½ inches.

1. Tagore. Hindu Music, pp. 300, 301.
2. Mahillon. Catalogue, vol. 3, pp. 265, 266, also Raffles. Description Géographique, p. 281.

Class IV Sonorous Substances Division 1 Struck

1461 XYLOPHONE. *Gender.* A frame of wood, the uprights ornamented with dragons' heads. Twelve metal plates, beneath each of which is a bamboo tube.
Length of frame, 4 feet 9 inches. Height, 3 feet 6½ inches. Longest bar, 11 inches; shortest, 8 inches.

In the *Gamelan Salendro* there are three sizes of *genders* tuned an octave apart: The *gender-penemboeng*, the *gender-baroeng*, and the *gender-peneroes*. In the *Gamelan Pelog* there are two: the *gender nem* and the *gender barang*, named according to the arrangement of the plates. In a complete orchestra each of the *genders* is represented by the three sizes: *penemboeng*, *baroeng*, and *peneroes*, as in the *Salendro*. cf. Mahillon. Catalogue, vol. 3, p. 263. Groneman and Land. De Gamelan, p. 38. Crawfurd. History, vol. 1, p. 337.

759 XYLOPHONE. *Gambang Gangsa.* A stand of carved wood decorated in red and gold, supporting six metal bars.
Length of frame, 2 feet 2 inches. Height, 9 inches. Longest bar, 8 inches; shortest, 6¾ inches.

A complete *Gamelan* usually has two *gambangs*, one with bars of wood (*gambang kajoe* or *kayu*), the other with bars of metal (*gambang gangsa*). cf. Mahillon. Catalogue, vol. 3, p. 266. Groneman and Land. De Gamelan, p. 37. Crawfurd. History, vol. 1, p. 337. Fetis. Histoire, vol. 1, p. 93.

Division 2 Plucked

3370 JEWS' HARP. A slip of bamboo with three vibrating tongues cut in the center. Reproduction. Original in the National Museum, Washington, D. C.
Length, 10¾ inches. Width, ¾ inch.

SUMATRA

CLASS I STRINGED INSTRUMENTS

Section A Plucked Strings

3134 BIOLA or MIJUE MIJUE. A slender, boat-shaped body of wood, tapering to a point at the lower end. Two gut strings and two wooden pegs. Played with a plectrum, which is attached by a cord.
Length, 1 foot 7 inches. Diameter, 2¾ inches.

Found among the Bataks, a tribe of semi-civilized canni-

BONANG OR KROMO, JAVA

NO. 777, P. 13

SARON, JAVA

NO. 1,463, P. 13

bals resident in the Atjeh mountains on the north coast of the island. A similar specimen (No. 905.20) in the Rijks Ethnographisch Museum Coll., Leiden, is called *ketjapi* and comes from the Toba Bataks.

In describing a ceremonial dance witnessed in Sumatra, Ling Roth[1] refers to an "orchestra consisting of a few *tingkahs*, or drums, of native manufacture, played with the knuckles, constructed of a hollow cylinder of wood, across both ends of which goat's skin is stretched; a bamboo flute, called *soeling*, and a European fiddle." A variety of instruments from Sumatra are shown at the Rijks Ethnographisch Museum, Leiden. From the Lampong districts, jews' harps of bamboo, one with a bamboo cylinder, which serves as a resonator; native name *djoering*. From the Bataklands; a bamboo flute with five holes called *paloea*, and two sizes of a double-reed instrument similar to the *sona* of China and the *zurna* of India; the larger called *seroene*, the smaller *sordam*. A stringed instrument identical with No. 3134 is called *kesapi* or *ketjapi*, a drum with two heads, *gendang* or *gordang*, a bull-roarer, for which no native name is given. From the Residency Benkoelen; a *moko-moko* fiddle or *rebab;* a tambourine with membrane of deer-skin, *radoh;* three vertical flutes of bamboo—*seroen-dam*, with three holes; *serdam*, longer than the *seroendam*, with three holes; *bangsi*, with five holes; a transverse flute with six holes, *kerilong*. From the Lowlands of Padang on the west coast, a drum, *gandang*, and a tambourine with membrane of fish-skin, called *adok* or *rebana*.

BORNEO

CLASS I STRINGED INSTRUMENTS

825 YANG KONG, SATONG, or YADOK. A section of bamboo with five strings of fibre cut and raised from the surface by small bridges placed at each end.

Length, 2 feet 5 ½ inches. Diameter, 3 ½ inches.

cf. Roth. The Natives of Sarawak, vol. 2, p. 262. Similar to the *marouvane* of Madagascar and the *gandang boeloe* of Sumatra.

1. The Natives of Sarawak, vol. 2, p. 281.

Class I Stringed Instruments Section A Plucked Strings

1838 YANG KONG, SATONG, or YADOK. Similar to No. 825. A narrow opening on one side.
Length, 1 foot 7½ inches. Diameter, 4¾ inches.

1292 BLIKAN. A long, narrow body, square at the base and tapering to the neck, which is finished with a rudely carved ornament. The front a thin board pierced with six small holes and decorated at the base with a projecting ornament which holds the strings. Originally seven knobs of gutta on the finger-board, two missing. Two wire strings and a movable fret of braided split rattan.
Length, 4 feet 6 inches. Diameter, 5¼ inches.

The *blikan* is a Dyak instrument. It is described by Roth[1] as being hollowed out from the upper surface and covered with a thin plate of wood. The *safê* (No. 2738), on the other hand, is hollowed out from underneath, and the back left open. Another form of lute from Sambas, West Borneo, is shown in the Rijks Ethnographisch Museum Coll., No. 370.3688, the native name for which is *gambas*. The body is pear-shaped, with a rounded back and parchment front, tapering to the neck, which is finished in a scroll. An open peg-box with three pegs. This instrument closely resembles the Wayao Guitar of Eastern Africa, No. 1657, and a similar form is found in Syria, No. 304.

819 BLIKAN. Similar to No. 1292, but without frets. Two strings of split rattan. One triangular soundhole. Kanowit, Sarawak.
Length, 3 feet 1 inch. Diameter, 4¾ inches.

2738 SAFÉ or DJIMPAI. Similar to No. 1292. The neck carved to represent a stooping figure supporting a fish, the two string-pegs in the form of figures with arms folded at the back. The body hollowed out from a solid block, the back left open. Strings missing.
Length, 4 feet 1¾ inches. Diameter, 9 inches.

This instrument is found among the Mandalam Kayans of Central Borneo, where it is called *safé*. In the south-eastern part of the island it is called *sapeh* or *kasapi*. cf. Rijks Ethnographisch Museum Coll., Nos. 1219.329 and 37.553. Bock. Head Hunters, p. 217. Roth. The

1. The Natives of Sarawak, vol. 2, p. 262.

STRINGED INSTRUMENTS, BORNEO
PP 16, 17

Natives of Sarawak, vol. 2, p. 262. See note to No. 1292. A similar instrument from Long Wia, in the British Museum, is called *impai*. Described and illustrated by Roth. vol. 2, p. 261.

814 SERUNAI. Body made from the shell of a cocoanut, with a long, straight neck of wood. A hole in the back; the front covered with snake-skin held in place by lacings of split rattan. One string of segu cane. A slender bow of wood fibre. Kanowit, Sarawak.

Class I Stringed Instruments Section C Bowed Strings[1]

Length, 2 feet 7½ inches. Diameter, 5 inches. Bow, 2 feet 4 inches.

In playing this instrument the performer sits upon the ground and holds the fiddle between his toes, the knees bending outward, the soles of the feet together. The string must be moistened in order to produce the sound. The seams are usually cemented with "wild wax."[2] A similar specimen in the Rijks Ethnographisch Museum Coll., Leiden, No. 1059.33, is labeled *srunai* and comes from the Lupue Dyaks of Batang, West Borneo, while another, No. 659.105, is named by Roth (p. 260) *garadap*.

815 SERUNAI. Similar to No. 814. No pegs; the strings fastened to a loop on the neck. Kanowit, Sarawak.
Length, 2 feet 4½ inches. Diameter, 4½ inches. Bow, 1 foot 4¼ inches.

816 SERUNAI. Similar to No. 815. This specimen has a small bridge. Sarawak.
Length, 2 feet 3 inches. Diameter, 4⅛ inches. Bow, 1 foot 6¾ inches.

2365 SERUNAI. Similar to No. 816, but more elaborate. The peg-box re-curved, expands into a large disk carved in an open scroll pattern of conventionalized floral forms. Two long string-pegs carry two strings of fibre that pass through a tail-piece fastened to a projecting peg at the base. An arched bow. Sadong River, Sarawak.
Length, 3 feet 3½ inches. Diameter, 6 inches. Bow, 8 inches.

1. Section B. Struck Strings not represented.
2. Roth. The Natives of Sarawak, vol. 2, p. 260.

CLASS II WIND INSTRUMENTS

Section A Whistles 1. Vertical Flutes

822 VERTICAL FLUTE. *Souling* or *Soeling*. Lowest note D. A tube of cane, the closed end chamfered on one side and originally bound with a strip of split rattan; at the edge of this band the breath-hole. Six finger-holes on the opposite side of the tube from the breath-hole. Kanowit, Sarawak.
Length, 1 foot 9 inches. Diameter, ¾ inch.

823 NOSE FLUTE. Lowest note D. A tube of cane with one end closed. At one side of the closed end a narrow opening ⅜ of an inch long, originally partially covered by a band of split rattan, now missing. Three finger-holes on the same side of the tube as the breath-hole. The open end cut at an angle.
Length, 1 foot 5 inches. Diameter, 1 inch.
Bock[1] refers to a nose flute, but gives no name. Roth[2] shows a bamboo nose flute with four holes, to which he gives the name *silinguit*.

824 WHISTLE FLUTE. Lowest note C. A wooden tube with a pointed mouthpiece similar to the flageolet. Four finger-holes.
Length, 11½ inches. Diameter, 1 inch.
Identical with the *seroene*, a nose flute of the island of Nias. Rijks Ethnographisch Museum Coll., Leiden, No. 1002.57. Among the flutes described by Roth[2] may be mentioned the *gulieng*, a bamboo pipe with a plug at the mouthpiece, three finger-holes; the *silinguit*, a Kenniah nose flute two feet in length, made of bamboo; and the *ensuling*, a bamboo flute, played with the mouth.

2. Transverse Flutes

1732 TRANSVERSE FLUTE. Lowest note D. A brass tube with six finger-holes, a central hole similar to that in the *ti-tzu* of China, and two additional holes near the end.
Length, 2 feet 1 inch. Diameter, ¾ inch.

821 TRANSVERSE FLUTE. A tube of cane with six finger-holes. Kanowit, Sarawak. Length, 2 feet 1 inch.

1. Head Hunters, p. 218.

2. The Natives of Sarawak, vol. 2, p. 258.

Section B Reeds
1. Beating Reeds
a. Single-beating Ree

1827 REED PIPE. Two bone tubes, each pierced with five finger-holes and bound together with strips of metal. The mouthpiece, similar to that of the *ẓummarah*, consists of two small pieces of reed each with a vibrating tongue cut in the side.

Length, 10 inches.

This instrument is identical with the *ẓummarah* of Northern Egypt, and the *meijwiẓ* of Arabia. The Arabs migrated to Borneo as early as the thirteenth century.

2. Free Ree

820 MOUTH ORGAN. *Engkruri* or *Kleddi*. Six bamboo pipes bound around a central one with two braids of split rattan and fastened in a long-necked gourd with gutta. In each pipe a free reed and in the six outside pipes a single hole just above the point where they enter the gourd. Three of the pipes fitted with covers made from larger tubes of bamboo.

Longest pipe, 2 feet 1½ inches. Shortest, 2 feet.

Referring to a similar instrument. Roth[1] describes it as the *klurai* or *keluri* of the Kayan tribe, and states that four of the pipes produce the chord of F (F, A, C, F, with the upper and lower tonic). A fifth has a faint suspicion of a flattened ninth G flat (from the lower tonic), while a sixth pipe adds the pluperfect fourth B. It is played by suction, and is tuned by shortening the pipes. He further states that there are distinct differences between the instruments as made by each tribe. That from the Baram Kayans consists of seven pipes, six arranged in a circle around a long central one, all seven being furnished with free reeds at the ends, where they are inserteed in a calabash gourd. Holes are cut in the six outer pipes for fingering; the central pipe is, however, an open or drone (bourdon?) pipe, the tone being intensified by fixing a loose cap of bamboo on the upper end. It is played by blowing air into the neck of the gourd or by drawing the breath, according to the effect desired.

812 MOUTH ORGAN. *Engkruri* or *Kleddi*. Similar to No. 820. Eight pipes, decorated with red and blue glass beads, arranged in two parallel rows instead of being grouped around a central pipe, as in No. 820. A soundhole in the gourd and a short bamboo mouthpiece inserted in the neck.

1. The Natives of Sarawak, vol. 2, pp. 259, 260.

Class II
Wind Instruments
Section B
Reeds
2. Free Reeds

Seven pipes fitted with free reeds, the eighth carved with an open-work scroll design. In two pipes a single hole just above the point where they enter the gourd. Kanowit, Sarawak.

Longest pipe, 1 foot 8 inches. Shortest, 9¼ inches. Diameter of gourd, 4 inches.

Similar to the *garoede* of the Doesan Dyaks, North Borneo. Rijks Ethnographisch Museum Coll., Leiden, Nos. 898.26, 898.37. Roth[1] in describing this pipe as peculiar to the Dusans (Doesans) states: "The Dusan pipes are formed of eight pipes, four short and equal in length, and four long and unequal. Reeds are cut at the lower end in all the pipes, but the fingering is performed on the ends of the four equal short pipes, there being no holes cut in the pipes for this purpose, as in the Kayan instrument."

810 MOUTH ORGAN. *Engkruri* or *Kleddi*. Similar to No. 812. Eight pipes arranged in two rows, four with holes near the point of insertion in the gourd. Kanowit, Sarawak. Longest pipe, 1 foot 2 inches. Shortest, 6 inches.

813* MOUTH ORGAN. *Engkruri*. Six reed pipes, inserted in a short-necked gourd. A vibrating tongue cut in each pipe where it enters the gourd. Kanowit, Sarawak. Longest pipe, 9 inches. Shortest, 3½ inches. Diameter of gourd, 3½ inches.

CLASS III VIBRATING MEMBRANES

Division I
Struck
Section A
Drums
1. With one head

806 DRUM. *Gendang*. Similar to No. 811. Kanowit, Sarawak.

Height, 2 feet 10 inches. Diameter at base, 7 inches.

811 DRUM. *Gendang*. Body cut from a log of wood, smaller in the center and flaring slightly at the ends. Head of snake-skin held in place with strips of rattan fastened to a braid of the same secured by wooden wedges. Kanowit, Sarawak.

Height, 2 feet 4 inches. Diameter at base, 4½ inches.

A similar specimen in the Edinburgh Museum from the

1. The Natives of Sarawak, vol. 2, p. 260.

*This instrument is placed with Class II in the Kindred Instruments of the Historical Groups.

INSTRUMENTS OF BORNEO AND SUMATRA
PP. 14–16, 18–21

Muruts of the Upper Labok River district, is described by Roth[1] as being cut from a log of palm wood, the upper end covered with a piece of monkey skin. Class III Vibrating Membranes Division 1 Struck Section A Drums 1. With one head

376 DRUM. *Katambong.* Similar in form to No. 806, but of smaller diameter and of finer workmanship, the open end ornamented with a band of carving.
Height, 2 feet 5 inches. Diameter, 4¾ inches.
Similar to No. 751.180 in the Rijks Ethnographisch Museum Coll., Leiden, from Southeast Borneo.

CLASS IV SONOROUS SUBSTANCES

385 BELL. Bronze. A small globular bell, the surface decorated with a narrow band of ornament in relief. Division 1 Struck
Height, 2⅜ inches.

386 BELL. Bronze. Similar to No. 3585, the surface decoration simple bands of radiating scrolls in relief.
Height, 2 inches.

387 BELL. Bronze. Similar to No. 3586.
Height, 1¾ inches.

388 BRACELET RATTLE. A string of small bells that alternate with colored glass beads.
Diameter, 6 inches.

408 KOULINTAUGAU. A series of ten metal gongs. Saudakan, British North Borneo.
Largest gong, 1 foot 6 inches in diameter; depth, 8½ inches.
Nine smaller gongs, 7½ inches in diameter; 2¼ inches deep.

1652 JEWS' HARP. *Aping.* A slip of bamboo, pointed at one end, a vibrating tongue cut in the center. Kayan tribe. Division 2 Plucked
Length, 1 foot 1½ inches. Width, ¾ inch.
cf. Roth. The Natives of Sarawak, vol. 2, p. 258.

1717 JEWS' HARP. *Giriding.* Similar to No. 1652, but square at the ends. Kanowit, Sarawak.
Length, 10 inches. Diameter, 1 inch.
A similar specimen in the Rijks Ethnographisch Museum

[1] The Natives of Sarawak, vol. 2, p. 263.

Class IV Sonorous Substances Division 2 Plucked

Coll., Leiden, No. 551.52, from Southeast Borneo. cf. also Roth. The Natives of Sarawak, vol. 2, p. 257.

818 JEWS' HARP. *Rudieng.* A narrow strip of metal, pointed at one end, with a vibrating tongue in the center. Kanowit, Sarawak.
Length, 3¼ inches.
Roth gives a slightly different spelling—*rodiung.* The Natives of Sarawak, vol. 2, p. 257. Balfour gives *genggong* as the Malay name for the jews' harp. Fasciculi Malayenses, p. 6.

1291 JEWS' HARP. *Rudieng.* Similar to No. 818.
Length, 3¼ inches.

1653 JEWS' HARP. *Rudieng.* Similar to No. 818.
Length, 3¼ inches.

3657 CLAPPER. Similar to No. 1839, p. 29.
Length, 1 foot 11¾ inches.

CELEBES

CLASS II WIND INSTRUMENTS[1]

Section A Whistles 1. Vertica Flutes

3650 VERTICAL FLUTE. Bamboo, the surface etched with burnt lines and dots. Six finger-holes. From Macassar. Presented by Dr. Julius Hoffmann.
Length, 1 foot 8 inches.
This flute is identical with the *souling* of Java (cf. No. 729). The strip of split rattan originally bound around the mouthpiece end is missing.

PHILIPPINE ISLANDS

CLASS I STRINGED INSTRUMENTS

Section A Plucked Strings[2]

3412 HARP. European model. Body quadrangular, open at the back. Front pillar straight, the head and base ornamented with carvings of white wood; the scroll finished

1. Other classes not represented.

2. Miss Densmore describes the musical bow of the Filipinos as follows: "Its one string was a fibre of bamboo about 45 inches long, the ends wrapped around stones and firmly imbedded in the ground. Under this string, near the middle, the boy had dug a hole in the ground about the size of a quart

INSTRUMENTS OF THE PHILIPPINE ISLANDS
PP. 23–26

with an ornamental rose. Thirty-three strings of silk, five overspun with waxed fibre. Presented by Mr. Morris K. Jesup.
Height of front pillar, 5 feet 3¼ inches.

62 HARP. European model with pillar and framework of bamboo. Twenty-six strings of gut fastened with iron pegs.
Height of front pillar, 4 feet 6 inches.

16 A tube of bamboo with two oblong openings cut between the joints on one side. Four fibre strings fastened to wooden pegs inserted at one end, passed through holes to the inside where they are held by knots.
Length, 2 feet 9 inches. Diameter, 3¾ inches.

414 BANDURIA. A circular body of unvarnished wood. A single soundhole outlined with a circle of inlay. Two movable fibre frets on the finger-board. A flat head with holes for four pegs, three of which are missing. Two additional holes for a cord. Fibre strings. Santo Nino, Samar. Presented by Mr. Morris K. Jesup.
Length, 1 foot 7¾ inches. Diameter, 5 inches.

413 BANDURIA. Body of unvarnished wood, a single hole in the soundboard outlined with a band of inlay. Nineteen frets on the finger-board. A flat head with sixteen pegs inserted from behind. Eight double wire strings. Six pegs and strings missing. Presented by Mr. Morris K. Jesup.
Length, 2 feet 7 inches. Width, 11¼ inches.

415 GUITAR. *Tipla*. Body of unvarnished wood. Five fibre strings. Three movable gut frets on the neck. Presented by Mr. Morris K. Jesup.
Length, 1 foot 7⅛ inches. Width, 3½ inches.

674 BANDURIA. A circular body made from a cocoanut shell, with soundboard edged with inlay. A single

up, lining it neatly with stones. Over the top of this hole he had placed a ound piece of tin, on which rested the little stick which formed the 'bridge' nd supported the string at such an angle that the two ends gave tones a najor third apart. The boy twanged this most happily as he sang a little gorrote song." Filipinos, Amer. Anthrop., n. s., vol. 8, pp. 621, 622, 1906.

Class I Stringed Instruments Section A Plucked Strings

soundhole also ornamented with a band of inlay. On the finger-board seventeen metal frets. A flat head with pegs inserted from behind and four fibre strings fastened to metal pins at the base of the body.
Length, 1 foot 8½ inches. Diameter, 7¼ inches.

1956 BANDURIA. Similar to No. 3413. Twelve metal frets on the finger-board. Twelve wire strings arranged in pairs.
Length, 1 foot 10 inches. Width, 9 inches.

Section B Struck Strings

2606 AGONG. A tube of bamboo closed at each end by a node with a small opening at the center of one side. Over this hole a square piece of wood supported on two fibre strings raised from the surface of the tube by a small wooden bridge placed at each end. Northern Luzon.
Length, 1 foot 6 inches. Diameter, 4 inches.
The National Museum at Washington, D. C., has a similar instrument from the island of Nias, the native name of which is *krumba*. See also No. 1490, from Madagascar, and No. 2746, Kindred Instruments.

Section C Bowed Strings

3416 VIOLIN. European model of unvarnished wood. Four fibre strings and a horn tail-piece. Two strings missing. Presented by Mr. Morris K. Jesup.
Length, 1 foot 10½ inches. Width, 7 inches.

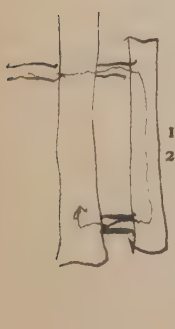
CLASS II WIND INSTRUMENTS

Section A Whistles 2. Transverse Flutes[1]

3420 TRANSVERSE FLUTE. A tube of bamboo with six finger-holes. Presented by Mr. Morris K. Jesup.
Length, 1 foot 11 inches.

Section C[2] Cup Mouthpieces

2612 HORN. Two tubes of bamboo, the smaller one closed at both ends, the larger open at the top. At the center of the larger tube a mouthpiece of bamboo, inserted at a right angle, passes through it to the smaller tube; from this the air enters the larger tube through a short connecting pipe, and escapes at the top. Northern Luzon.
Large tube, 1 foot 9½ inches; diameter, 2¾ inches. Small tube, 1 foot 1¼ inches; diameter, 1¾ inches.



1. (1) Vertical Flutes not represented.
2. Section B. Reeds not represented.

ILONGOTS PLAYING THE NATIVE DULCIMER, PHILIPPINE ISLANDS
FROM NATIONAL GEOGRAPHIC MAGAZINE, WASHINGTON, D.C.
COPYRIGHT 1912

514 HORN. Similar to No. 2612. Large tube, 1 foot 8¾ inches; diameter, 2 inches. Small tube, 1 foot 1¼ inches; diameter, 1½ inches.

510 HORN. Similar to No. 2612.
Large tube, 1 foot 11½ inches; diameter, 3¼ inches. Small tube, 1 foot 3¼ inches; diameter, 2¾ inches.

511 HORN. Similar to No. 2612.
Large tube, 2 feet 2½ inches; diameter, 3¾ inches. Small tube, 1 foot 3½ inches; diameter, 2¾ inches.

513 HORN. Similar to No. 2612.
Large tube, 2 feet 4 inches; diameter, 4¼ inches. Small tube, 1 foot 3 inches; diameter, 2¾ inches.

509 HORN. Similar to No. 2612.
Large tube, 2 feet 8 inches; diameter, 4¾ inches. Small tube, 1 foot 4¾ inches; diameter, 3¼ inches.

508 HORN. Similar to No. 2612.
Large tube, 1 foot 7¼ inches; diameter, 2½ inches. Small tube, 11¾ inches; diameter, 1¾ inches.

615 HORN Similar to No. 2612, except that in this the air enters through a long tube inserted in the connection between the large and small tube, entering first the short tube and passing through it to the larger one, from which it escapes at the lower end.
Large tube, 1 foot 5 inches; diameter, 1¾ inches. Small tube, 1 foot ¾ inch; diameter, 1¾ inches.

765 HORN. A tube of bamboo with a mouthpiece inserted at a right angle near one end. On the side, small tubes bent to represent the tubing of a cornet. Manila.
Length, 1 foot 11½ inches. Diameter, 2 inches.

766 HORN. Similar to No. 765, but differing in having the end of the tube split to give it a reedy tone. Manila.
Length, 2 feet. Diameter, 2 inches.

417 CONCH SHELL TRUMPET.
Length, 13¾ inches.

CLASS III VIBRATING MEMBRANES

Division 1 Struck Section A Drums 2. With two heads[1]

2607 DRUM. A tube of bamboo, the ends originally covered with membrane, now open. A hole in the center of one side.
Length, 2 feet 4 inches. Diameter, 4 inches.

3418[2] DRUM. European model. Wooden shell with two heads of skin held in place with wooden hoops laced together with cords.
Height of shell, 5 ½ inches. Diameter of heads, 10⅜ inches.

CLASS IV SONOROUS SUBSTANCES

Division 1 Struck

3419 GONG. A deep metal bowl with a boss in the center.
Diameter, 8 inches. Depth of rim, 3 inches.
"The Negritos have three musical instruments: a copper gong, the *bansi* or flute, and the *barimbo* or jews' harp. In playing the *bansi* the pointed end is rested on the ground and held firmly between the toes of the performer." Densmore. Filipinos, Amer. Anthrop., vol. 8, No. 4, p. 617.

3422 BELLS. Three small pear-shaped metal bells ornamented with raised dots.
Diameter, ⅜ inch.

Division 2 Plucked

2617 JEWS' HARP. *Barimbo.* A strip of bamboo in which is cut a vibrating tongue.
Length, 1 foot. Width, ⅜ to ½ inch.
Sometimes spelled *culang*. This is the Moro name for jews' harp. (National Museum, Washington, D. C.)

3421 JEWS' HARP. *Barimbo.* Similar to No. 2617.
Length, 1 foot 1 inch. Width, ⅜ inch.

1. Section A1 not represented.
2. Nos. 3417, 3418, 3419 presented by Mr. Morris K. Jesup.

NEGRITO PLAYING A NOSE FLUTE, PHILIPPINE ISLANDS
FROM NATIONAL GEOGRAPHIC MAGAZINE, WASHINGTON, D.C.
COPYRIGHT 1912

MELANESIA AND AUSTRALIA

NEW GUINEA

CLASS I STRINGED INSTRUMENTS

;06 A body of wood in the form of a boat with a raised deck at each end suggestive of the Malay trading prahu. A straight neck, finished with a carved head. Open peg-box pierced for four pegs, three of which are missing. Two soundholes. Strings missing. Possibly played with a bow. Length, 2 feet 3 inches. Width, 6 inches.

Section C[1] Bowed Strings

CLASS II WIND INSTRUMENTS

771 TRANSVERSE FLUTE. Lowest note G. A tube of bamboo with six finger-holes.
Length, 1 foot 5½ inches.

Section A Whistles 2. Transverse Flutes[2]

990 TRANSVERSE FLUTE. A tube of bamboo with five holes on one side placed five inches apart. A single one on the back opposite the central hole.
Length, 1 foot 8¾ inches. Diameter, 1½ inches.

774 HORN. A tube of bamboo with one of smaller diameter inserted in the side at a right angle, near the closed end.
Length, 1 foot 5 inches. Diameter, 3 inches.
Similar to the bamboo horns of the Philippine Islands. cf. No. 765, p. 25.

Section C Cup Mouthpieces[3]

Other sections not represented.
Vertical Flutes not represented.
Section B. Reeds not represented.

CLASS III VIBRATING MEMBRANES

Division 1 Struck Section A Drums 1 With one head

1832 DRUM. *Arpa.* Body made from a log of wood hol- lowed out, small at the center and expanding at the ends. The sides cut away at one end, forming two rounded points. The opposite end originally covered with membrane. The surface unstained, the only attempt at decoration being a rude carving of a human face with a beaked nose. A handle in the center.
Length, 4 feet 8¾ inches. Diameter, 5¾ inches.
Williamson[1] shows a drum of this type with four prongs which he states is from the Mafulu Mountain people and adds that it is similar to that of the Memeo but smaller. These drums are usually of pine, but sometimes of arive wood, which word also is the native name for drum.

1288 DRUM. *Arpa.* Similar in form to No. 1832, but of more finished workmanship. The open end carved to rep- resent the open jaws of a crocodile. The surface blackened and ornamented with a simple border cut in the edge and whitened with lime. Membrane held in place with braided rattan.
Length, 3 feet 2 inches. Diameter of head, 7 inches.

773 DRUM. *Kaba.* A small cylindrical hand drum cut from a solid block of wood. Characteristic carving whitened with lime.
Length, 11¼ inches. Diameter, 2½ inches.
cf. Wallaschek. Primitive Music, p. 28.

762 DRUM. *Arpa.* Similar to No. 1288. The surface stained brown, the ornamental border more elaborate. A handle in the center. Head of snake-skin fastened with cement.
Length, 2 feet 5 inches. Diameter, 6 inches.

1830 DRUM. *Arpa.* Cut from a log of wood, slightly smaller in the center, the surface blackened. One end open the opposite end covered with snake-skin held in place by

1. Williamson. The Mafulu Mountain People of British New Guinea pl. 75. London, 1912.

DRUMS, NEW GUINEA
PP. 28, 29

band of twisted fibre. A handle at the center, and on the opposite side a carved ornament.
Length, 1 foot 9¾ inches. Diameter, 4⅜ inches.
A similar specimen in the Peabody Museum, Salem, Mass.

Class III Vibrating Membranes Division 1 Struck Section A Drums 1 With one head

1833 DRUM. *Kaba.* A cylindrical shell cut from a log of wood and blackened. One end open and cut in two prongs similar to the *arpa*, and carved in low relief. The head of snake-skin.
Length, 2 feet 7¾ inches. Diameter, 4½ inches.
Ratzel[1] shows a similar drum from Pigville. The ornamental carving on this specimen resembles the totemic designs of the Haida Indians of the Northwest Coast of North America. cf. No. 1456, p. 100 and No. 646, p. 95, American Section.
Among the people of Moatta at the mouth of the river Kataw, the native name for drum is *gama*. D'Albertis[2] also shows a drum of this type from the Fly River and one shaped similar to No. 762 from Hall Sound.

CLASS IV SONOROUS SUBSTANCES

767 TIME MARKER. A spatula made of dark wood, the design etched in the handle whitened with lime.
Length, 2 feet 9⅝ inches. Width, 2 inches.
These are used by the natives to mark time in their chants and songs by striking the palm of the hand. They are also used to stir the lime in their betel boxes. The betel, a nut from the areca palm, is mixed with lime and chewed, like tobacco, both by men and women.

Division 1 Struck

768 TIME MARKER. Similar to No. 767.
Length, 11¾ inches. Width, 1¼ inches.

1839 CLAPPER. A tube of bamboo with one end cut in two long prongs, which are probably used as clappers. The prongs are cut as far as the node which closes the tube; just below this point is what is apparently the breath-hole. At the opposite end of the tube a single hole on the same side,

1. History, vol. 1, p. 221.
2. D'Albertis. New Guinea: What I did and what I saw, vol. 2, p. 269.

Class IV Sonorous Substances Division 1 Struck

and on the other side two additional holes; one 4⅛ inches from the end, the second 7⅛ inches above it.
Length, 4 feet 1 inch. Diameter, 1½ inches.

This may be a form of the musical clapper described by Mr. Balfour[1] for which he gives the Malay name as *genggong sakai*. The method of sounding is as follows: "The instrument is struck upon the thigh, the split edges being thus caused to jar together, and the two tongues to vibrate. The sound is modified by closing one or both of the lateral holes. . . . It somewhat resembles a tuning-fork in principle, but is peculiar from the fact of its being furnished with stops, a very unusual feature in percussion instruments. A similar instrument is described by Dr. A. Schandenburg from the Philippine Islands under the name of *buncacan*."

3625 BULL-ROARER. A thin blade of dark wood with rounded ends. The surface at one end ornamented with incised lines and two grotesque masks thrown into relief by a white background of lime rubbed into the wood. A hole at one end for the cord.
Length, 2 feet 1 inch. Width, 3 inches.

Division 2 Plucked

769 JEWS' HARP. *Darubiri*. A slip of dark wood tapering from a rounded end to a point. A vibrating tongue cut in the center.
Length, 5¾ inches.

770 JEWS' HARP. *Bibo*. A long, narrow slip of bamboo, one end square, the opposite end cut in a point. In the pointed end a vibrating tongue.
Length, 12 inches.
cf. Wallaschek. Primitive Music, p. 28.

SOLOMON ISLANDS

CLASS I STRINGED INSTRUMENTS

Section B Struck Strings[2]

1734 MUSICAL BOW. *Kodili*. A tube of bamboo with a double fibre string wound around one end and fastened at the opposite end in a hole in the tube. Norfolk Island.

1. Fasciculi Malayenses, p. 15.
2. Section A. Plucked Strings not represented.

Length, 1 foot 11 inches. Diameter, 1½ inches.

This instrument is held by the extreme tips of the finger and thumb of the left hand and put between the lips close to the fingers. One finger is used to stop the string as it is struck by a small plectrum. The folded end of the long string answers this purpose.

In form and construction this instrument resembles the Apache fiddle of North America. cf. Nos. 2733, 2924, American Section, p. 107. See also the *pagola* described by Balfour,[1] and the *orang bukit* described by the same author.[2]

1431 MUSICAL BOW. *Kigulu.* A stick of bamboo or reed with two fibre strings fastened to a projecting spur at each end, where they are raised from the surface by a bit of wood which serves as a bridge. Norfolk Island.

Length, 1 foot 7 inches.

A similar musical bow is found among the North American Indians. cf. No. 3250, p. 104.

781 MUSICAL BOW. *Kalove.* Similar to No. 1431. Florida Islands.

Length, 1 foot 2 inches.

Referring to a similar instrument from this district, Mr. Balfour[3] says: "The bow is held in the teeth in playing. The strings are sounded by striking with a little plectrum of bamboo or reed held in the right hand. Both strings are tuned to one note; one string is permanently stopped with one finger of the left hand, raising the note by a certain interval; the other is alternately stopped and released higher up with another finger."

CLASS II WIND INSTRUMENTS

Section A Whistles 1. Vertical Flutes

835 PANPIPES. *Galevu Ngungu.* Fifty tubes of bamboo in two rows bound between two strips of wood. Old and discolored. Florida Islands.

Longest pipe, 2 feet 4 inches; shortest, 1 foot 5/8 inch.

These instruments are used in groups, the bass and tenor parts of which are supplied by the *pupu horu* (bass) and the *pupu galaga* (tenor), Nos. 787, 782, p. 33.

1. Musical Bow, p. 72.
2. Fasciculi Malayenses, p. 18.
3. History of the Musical Bow, pp. 76–78.

Class II Wind Instruments Section A Whistles 1. Vertical Flutes

828 PANPIPES. *Galevu Kauhaumumu.* Eleven tubes of bamboo bound between two strips of wood with lacings of fibre. Florida Islands.
Longest tube, 1 foot 7 inches; shortest, 2½ inches.

826 PANPIPES. *Galevu Soniruka.* Forty tubes of bamboo arranged in two rows; five of the original tubes missing. Seruka, Florida Islands.
Longest pipe, 10 inches; shortest, 1½ inches.

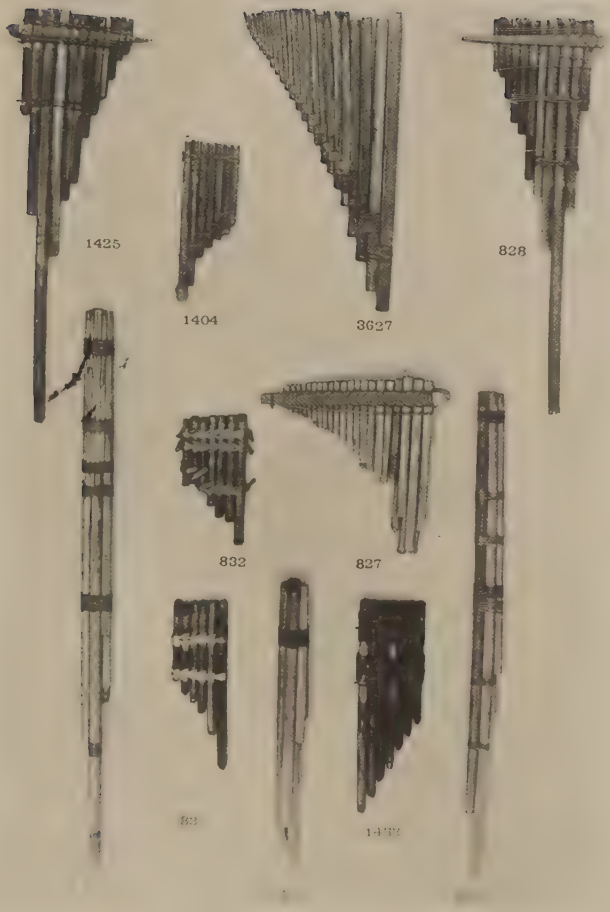
804 PANPIPES. *Galevu Kauhaumumu.* Thirteen tubes of bamboo. Florida Islands.
Longest tube, 1 foot 7 inches; shortest, 1 foot ⅝ inch.

827 PANPIPES. *Galevu Soniruka.* Similar to No. 826. Forty-four tubes. Florida Islands.
Longest tube, 8½ inches; shortest, 1¼ inches.

803 PANPIPES. *Gau Piti Piti* or *Putu.* Thirteen tubes of bamboo bound around a central tube which serves as a bourdon. Florida Islands.
The dimensions of the tubes are as follows:
Length, 2 feet 4 inches; diameter, ⅝ inch.
Length, 1 foot 3¾ inches; diameter, ½ inch.
Length, 2 feet; diameter, ⅜ inch.
Length, 1 foot 6¾ inches; diameter, ½ inch.
Length, 1 foot 7⅜ inches; diameter, ½ inch.
Length, 11 inches, 8¾ inches, 7¼ inches, 7¼ inches, 3⅜ inches, 2¾ inches, 2¾ inches, 2¾ inches; the smaller ones all $^{3}/_{16}$ inch in diameter.
These pipes instead of being open the full size of the tube are cut at the nodes of the bamboo and a small hole is pierced in the dividing fibre. A small square hole cut in the side of the 8¾ inch pipe.

802 PANPIPES. *Gau Piti Piti* or *Putu.* Similar to No. 803.
Length of pipes: 2 feet, 1 foot 9 inches, 1 foot 6½ inches, 1 foot 4¼ inches, all ½ inch diameter; 1 foot 1⅞ inches, ⅜ inch diameter.

780 VERTICAL FLUTE. *Uvete.* A tube of bamboo badly cracked, closed at one end; a notch burnt in the edge



PANPIPES, OCEANICA
PP. 32, 33, 38, 42

of the open end and three holes near the opposite end. Florida Islands.
Length, 1 foot 1½ inches. Diameter, ⅞ inch.

783 VERTICAL FLUTE. *Uvete*. Similar to No. 780. Badly cracked. Florida Islands.
Length, 1 foot 7 inches. Diameter, ¾ inch.

782 PUPU GALAGA. A simple tube of bamboo open at both ends. Florida Islands.
Length, 1 foot 4¾ inches. Diameter, ⅞ inch.
Used to accompany the *Galevu Ngungu*. See note to No. 835, p. 31.

787 PUPU HORU. Similar to No. 780. Closed at one end. Florida Islands.
Length, 1 foot 9½ inches. Diameter, 1½ inches.

1509 PANPIPES. Nineteen tubes of bamboo bound between two strips of wood.
Longest tube, 12½ inches; shortest, 2 inches.

1425 PANPIPES. Twelve tubes of bamboo similar to No. 1509. Norfolk Island.
Longest tube, 1 foot 7½ inches; shortest, 4½ inches.

1433 PANPIPES. Seven tubes of bamboo held together with strips of bark. Norfolk Island.
Longest tube, 10½ inches; shortest, 6 inches.

1432 PANPIPES. Six tubes of bamboo, old and discolored. Norfolk Island.
Longest tube, 10½ inches; shortest, 6 inches.

1439 PANPIPES. Eight tubes of bamboo. Apparently a very old specimen. Norfolk Island.
Longest tube, 9 inches; shortest, 4½ inches.

1427 VERTICAL FLUTE. A tube of bamboo closed at one end; a notch burnt in the edge of the open end; a hole on the back two inches from the closed end. Badly cracked.
Length, 1 foot 8 inches.

Class II Wind Instruments Section A Whistles 1 Vertical Flutes

1430 VERTICAL FLUTE. Lowest note E flat. A simple tube of bamboo similar to No. 1429. Norfolk Island. Length, 1 foot 1 ½ inches.

1429 VERTICAL FLUTE. Lowest note E flat. A simple tube of bamboo with a notch in the edge of the open end and two holes near the opposite end. Norfolk Island. Length, 1 foot 1 ⅜ inches.

1428 VERTICAL FLUTE. Lowest note B flat. Similar to No. 1430, but with one hole near the closed end. Norfolk Island.
Length, 11 inches.

1408 A simple tube of bamboo closed at one end. Norfolk Island.
Length, 3 feet. Diameter, 1 inch.

1407 Similar to No. 1408. Norfolk Island.
Length, 2 feet 1 inch. Diameter, 2 ¼ inches.
These instruments (1407, 1408) are evidently similar to those described by Wallaschek,[1] who quotes Angas[2] as follows:
"The Maoris use their seven-foot tubes (*putura putura*) for the purpose of war; during an uproar they blow with such vigor as to be heard at a distance of several English miles."

2. Transverse Flutes

1406 TRANSVERSE FLUTE. A tube of bamboo with two finger-holes. Norfolk Island.
Length, 3 feet 4 inches. Diameter, 1 ½ inches.

Section C Cup Mouthpieces[3]

761 CONCH SHELL TRUMPET.
Length, 1 foot 1 ½ inches.

CLASS IV SONOROUS SUBSTANCES[4]

Division 1 Struck

1438 RATTLE. A string of small shells worn on the neck or arm and used to accompany the dance.

1. Primitive Music, p. 101.
2. Savage Life, p. 152.
3. Section B. Reeds not represented.
4. Class III. Vibrating Membranes not represented.

1423 DRUM. A section of bamboo with a narrow opening cut in one side, the ends closed. Two sticks. Norfolk Island. Class IV Sonorous Substances Division 1 Struck
Length, 11 inches. Diameter, 2¼ inches.
A similar instrument in the Pitt Rivers Museum, Oxford, is from the Siamese Malay States; native name *kalah*. Mr. Balfour,[1] quoting Mr. Annandale, the collector, furnishes the following information in regard to its use: "Malays travelling at night often carry one of these bamboo gongs, which they strike when uncertain as to the way. The people in the nearest village reply. In some districts of the Patani States the use of the *kalah* is restricted to the *nai-ban* and *kem-nan* (heads of tens and hundreds), who summon their followers with it in case of fire, robbery, or the like. Similar gongs are used by the guards on the birds'-nest islands of the Taleh Sap, where each sentinel is obliged to strike his gong every hour through the night, the signal being taken up by the next watcher, and so on all around the island. In the Patani States the end of the rounds at cock-fights was formerly announced by means of a *kalah*, but a Chinese gong is now more commonly employed. Such gongs of bamboo are common in the Asiatic region, the Malayan Islands, and parts of the South Pacific."
Similar to a drum used by the night watchmen in China. cf. *kong chok*, No. 1496. Asiatic Section.

1434 JEWS' HARP. *Mike*. A slip of bamboo with a vibrating tongue cut in the center. Norfolk Island.
Length, 7¾ inches.

743 JEWS' HARP. *Neve*. Similar to No. 1434. Ysabel Island.
Length, 9¾ inches.

737 SNAPPER. A three-sided nutshell, highly polished, with a vibrating tongue cut in one side. By plucking this with the thumb nail a penetrating sound is produced which carries for a long distance. Division 2 Plucked
Diameter, 1⅞ inches.

1. Fasciculi Malayenses, pp. 3, 4.

NEW HEBRIDES

CLASS I STRINGED INSTRUMENTS

Section B[1] Struck Strings

778 MUSICAL BOW. *Vuhudendung.* A flat strip of bamboo with a small projection at one end which holds the string. At the opposite end the string passes through a hole and is knotted on the under side. Pentecost Islands.
Length, 1 foot 8½ inches. Width, ⅞ inch.

Referring to this instrument, the collector[2] writes: "It is played with a bit of grass or stick for a plectrum; not held in the mouth."

Mr. Balfour,[3] in describing the *Vuhudendung*, states that it is held between the teeth and the string struck with a double stick.

CLASS II WIND INSTRUMENTS

Section A Whistles Vertical Flutes

796 VERTICAL FLUTE. *Gore.* A tube of bamboo, closed at one end, a notch burnt in the upper end. Two finger-holes near the closed end, also one at the back. The tube badly cracked. Opa, Leper Island.
Length, 2 feet 6 inches. Diameter, ⅞ inch.

792 VERTICAL FLUTE. *Gore.* A tube of bamboo, similar to No. 796, but decorated with a design of dots burnt in the surface. Opa, Leper Island.
Length, 2 feet 4½ inches. Diameter, ¾ inch.

793 VERTICAL FLUTE. *Gore.* Similar to No. 792. The upper end of the tube decorated with a pricked design of burnt dots. Cracked. Opa, Leper Island.
Length, 2 feet 4½ inches. Diameter, ¾ inch.

794 VERTICAL FLUTE. *Khore.*[4] A tube of bamboo closed at one end, a notch burnt in the edge of the open end; a hole four inches from the closed end and a second four inches above it; one hole at the back at the closed end.

1. Other sections not represented.
2. Mr. J. Holford Plant, of the Polynesian Mission, 1889.
3. Musical Bow, p. 80.
4. Doubtless a variant of *gore* and *kaur*.

Entire surface covered with etched lines. Badly cracked. Aurora Island.
Length, 2 feet 3½ inches. Diameter, 1¼ inches.
Kraus[1] gives the name of a similar flute from New Britain as *kaur*.

791 VERTICAL FLUTE. *Gore*. Lowest note B. Similar to No. 796. Opa, Leper Island.
Length, 2 feet 2½ inches. Diameter, 1 inch.

790 VERTICAL FLUTE. *Gore*. Lowest note A. Similar to No. 791. A band of etched ornament around the top. Opa, Leper Island.
Length, 2 feet 2 inches. Diameter, ⅞ inch.

789 VERTICAL FLUTE. *Gore*. Lowest note A. Similar to No. 790. The upper end decorated with an etched design. A single hole near the top. Opa, Leper Island.
Length, 1 foot 11½ inches. Diameter, 1⅛ inch.

788 VERTICAL FLUTE. *Gore*. Similar to No. 789. Cracked. Opa, Leper Island.
Length, 2 feet 1 inch. Diameter, 1⅛ inch.

785 VERTICAL FLUTE. *Gore*. Similar to No. 788. Cracked.
Length, 1 foot 10 inches. Diameter, ⅞ inch.

786 VERTICAL FLUTE. *Gore*. Similar to No. 791. The surface decorated with a simple band of etched ornament. A hole near the top. Cracked. Opa, Leper Island.
Length 1 foot 10 inches. Diameter, ⅞ inch.
A very old specimen; the wood much discolored.

784 VERTICAL FLUTE. *Rura*. A tube of bamboo with three holes. Cracked. Opa, Leper Island.
Length, 1 foot 9 inches. Diameter, ⅝ inch.

779 VERTICAL FLUTE. *Mai*. A tube of bamboo with two holes. Cracked. Opa, Leper Island.
Length, 1 foot. Diameter, ⅞ inch.

1. Di alcuni Strumenti Musicali, p. 6.

Class II Wind Instruments Section A Whistles 1. Vertical Flutes

838 PANPIPES. *Puepava.* Seven tubes of bamboo bound together with a band of braided grass or fibre. Aneityum Island.
Longest tube, 5 inches; shortest, 2 inches.

837 PANPIPES. *Puepava.* Fifteen tubes of reed bound between two flat pieces of wood, the longest in the center, the other pipes graduated to a short one at each end. The middle or eighth pipe missing. Aneityum Island.
Longest tube, 4½ inches; shortest, 2⅜ inches.

833 PANPIPES. *Buebalabala.* Seven tubes of bamboo bound together with two bands of braided grass or fibre. Opa, Leper Island.
Longest tube, 5⅞ inches; shortest, 2¾inches.

834 PANPIPES. *Buebalabala.* Similar to No. 833. Six tubes of bamboo. Opa, Leper Island.
Longest tube, 8½ inches; shortest, 4 inches.

829 PANPIPES. *Buebalabala.* Seven tubes of bamboo. Opa, Leper Island.
Longest tube, 6½ inches; shortest, 3¼ inches.

832 PANPIPES. *Buebalabala.* Seven tubes of bamboo. Opa, Leper Island.
Longest tube, 6⅜ inches; shortest, 3¼ inches.

839 PANPIPES. *Kove.* Three tubes of bamboo bound together with a single band of braided grass or fibre. Opa, Leper Island.
Longest tube, 9½ inches; shortest, 6½ inches.

830 PANPIPES. *Puepava.* Seven tubes of bamboo. Pentecost Island.
Longest tube, 7⅛ inches; shortest, 3½ inches.

836 PANPIPES. *Puepava.* Seven tubes of bamboo. Pentecost Island.
Longest tube, 7¼ inches; shortest, 3 inches.

831 PANPIPES. *Puepava.* Six tubes of bamboo. Pentecost Islands.
Longest tube, 5 inches; shortest, 3⅛ inches.

DRUM GROVE, NEW HEBRIDES
FROM A PHOTOGRAPH

772 CONCH SHELL TRUMPET. Section C Cup Mouthpieces[1]
Length, 1 foot.

CLASS IV SONOROUS SUBSTANCES[2]

764 DRUM. A tube of bamboo closed at both ends by the nodes of the wood, a narrow slit along one side. Banks Island. Division 1 Struck
Length, 2 feet 5½ inches. Diameter, 4½ inches.

763 DRUM. Similar to No. 764. One end open and cut in two prongs, similar to the drums of New Guinea. Banks Island.
Length, 1 foot 11 inches. Diameter, 4 inches.

799 DRUM. Cut from a block of wood and hollowed out like a trough, with a projection at each end. Aneityum Island.
Length, 2 feet 2 inches. Diameter, 3½ inches. Depth, 7½ inches.

1494 RATTLE. Nutshells strung on fibre cord; eight shells in one bunch, six in the other.
Diameter of shells, 1½ inches.

1290 TREE DRUM. Made from a tree trunk, the surface ornamented with crude etchings of geometric designs and two ships. On one side a long, narrow opening, the interior of the log hollowed out, the base left solid. Near the top, which is rounded, two circular holes.
Height, 6 feet 5 inches. Diameter, 1 foot 4 inches.
A group of these tree drums forms an important feature in the equipment of the villages of the island, as certain ceremonials are held in the "drum groves."

1. Transverse Flutes and Section B. Reeds not represented.
2. Class III Vibrating Membranes not represented.

NEW CALEDONIA

CLASS II WIND INSTRUMENTS[2]

Section A Whistles[3] 2. Transverse Flutes

798 NOSE FLUTE. A long tube of bamboo, slightly arched and decorated with irregular bands of black. A single hole two inches from the closed end.
Length, 3 feet 3½ inches.
cf. Mahillon. Catalogue, vol. 1, p. 409. No. 364.

800 TRANSVERSE FLUTE. A tube of hard wood with polished surface bulbed at one end and tapering to a point. A mouthpiece on the side near the pointed end.
Length, 9½ inches.

Section C Cup Mouthpieces

801 HORN. A small ivory tusk with mouthpiece cut in a small block near the smaller end. The other end inserted in a wooden bell decorated at the larger end with a braid of split rattan; where the wood and ivory join, a band of snake-skin.
Length, 1 foot 2½ inches. Diameter of bell, 3 inches.
This horn strongly resembles those of Africa and may have been brought to the island by traders.

CLASS III VIBRATING MEMBRANES

Division 1 Struck Section A Drums 1 With one head

755 DRUM. A large, goblet-shaped shell of wood, the lower part painted yellow, the drum part black. The membrane held in place with strips of skin fastened to a ring nine inches below the head.
Height, 2 feet 7 inches. Diameter of head, 9 inches.
This drum resembles closely the *ozee* of Burmah, Nos. 2103 and 251, Asiatic Section.

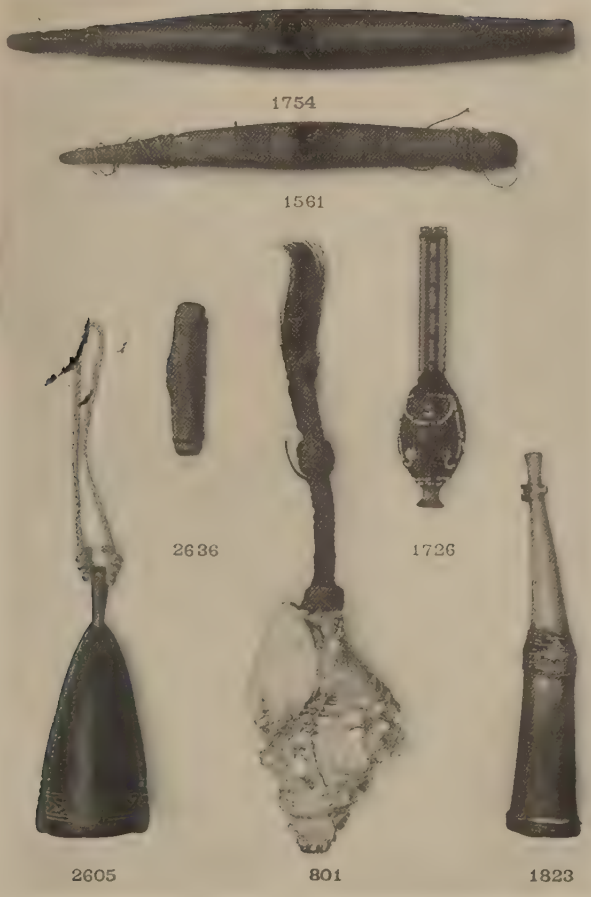
FIJI ISLANDS

CLASS II WIND INSTRUMENTS[2]

Section A Whistles 1. Vertical Flutes

795 NOSE FLUTE. *Mbi-ta-ni-tanga.* A tube of bamboo closed at both ends and ornamented with lines and arrow-

1. Classes I and IV not represented.
2. Section A. Whistles (1) Vertical Flutes and Section B. Reeds not represented.
3. Classes I and III not represented.



INSTRUMENTS OF MELANESIA
PP. 40, 41, 50, 51

heads burnt into the surface. Five holes on one side, placed one at each end, one in the center, and one between the central hole and each end hole; a single hole at the back.
Length, 2 feet 3¾ inches. Diameter, 1⅝ inches.

Class II Wind Instruments Section A Whistles 1. Vertical Flutes

In Fiji the nose flute is played only by the women. Referring to the instruments of these islands, Thomas Williams writes: "Although most of the Fijians are fond of music, yet their own attempts in that direction are very rude. Their musical instruments are the conch shell, the nose flute, the Pandean pipes, a jews' harp made of a strip of bamboo, a long stick, large and small drums made of a log, hollowed out like a trough and having cross pieces left near the ends, also bamboos used for the same purpose. The shell is the favorite instrument of the fishermen."[1] cf. also Mahillon. Catalogue. vol. 3, p. 176, No. 13[illegible]. Andree. In Globus, vol. 75, No. 9, 1899.

797 FLUTE.[2] Similar to No. 795, but open at one end. A single hole on the side at the closed end.
Length, 2 feet 7 inches. Diameter, 1¾ inches.

1726 REED PIPE. Three bamboo pipes fastened together side by side and inserted in one end of a cocoanut shell, having in its opposite end a small opening holding an ordinary wooden spool, which serves as a mouthpiece. The center pipe has six holes; one of the outside pipes three; the third pipe none. Each of the pipes with holes fitted with a single beating reed like that of *zummarah* placed in the end that is inserted in the shell.
Length, 11 inches. Diameter of shell, 3 inches.

Section B Reeds 1. Beating Reeds

cf. Balfour. Anthropological Journal, vol. 20, p. 151, fig. 12.

1823 CONCH SHELL TRUMPET. With a heavy carrying rope of braided fibre finished in a loop and tassel.
Length, 9 inches.

Section C Cup Mouthpieces

CLASS IV SONOROUS SUBSTANCES

1289 DRUM. *Lalis.* A narrow block of wood tapering to the ends with a square opening on one side.

Division 1 Struck

1. Fiji and the Fijians, vol. 2, pp. 163, 164.
2. Fiji Islands (?).

Class IV Sonorous Substances Division 1 Struck

Length, 2 feet 5½ inches. Width, 4 inches. Thickness, 3 inches.

Ratzel[1] describes a similar alarm drum of the Battaks, which they call *tabu*.

1835 SIGNAL DRUM. *Lalis*. A troughlike body hollowed out from a log of wood.
Length, 2 feet 3 inches. Diameter in center, 10 inches; at end, 7 inches.

BISMARCK ARCHIPELAGO

CLASS I STRINGED INSTRUMENTS

Section C[2] Bowed Strings

1399 VIOLIN. European model, roughly carved, of unvarnished wood. F soundholes. Four strings, two gut and two overspun. A heavy wooden bow. New Ireland.
Length, 2 feet. Width, 7¾ inches. Bow, 1 foot 11 inches.

CLASS II WIND INSTRUMENTS

Section A Whistles 1. Vertical Flutes

1403 PANPIPES. Seven tubes of bamboo grouped around a long central tube which serves as a bourdon. Bound together with a strip of fibre.
Longest pipe, 14½ inches; shortest, 6½ inches.

1404 PANPIPES. Seven tubes of reed placed side by side and bound together with fibre. The binding of these pipes differs from those of New Hebrides, the cord encircling all of the pipes at the open ends, while at the opposite and closed ends it is wound about them in groups of two. In the New Hebrides there are usually two bands of braided fibre.
Longest pipe, 7¾ inches; shortest, 4 inches.

3627 PANPIPES. Twenty-four pipes of reed placed side by side and bound together with fibre. Upper binding missing.
Longest pipe, 14¾ inches; shortest, ⅞ inch.

1. History, vol. 1, p. 404.
2. Sections A and B not represented.

1397 WHISTLE. Made of a bone of the condor, covered with leather and inserted in a tin case covered with cloth. Length of bone, 1 foot 6 inches. Length of case, 1 foot 7½ inches.

This unique specimen may be allied to the whistles from New Guinea described in the following paragraphs by Wallaschek[1] who quotes Schellong[2] as his authority: "A peculiar species seems to be the flute of the Papuans of New Guinea. They have two sorts, the 'male' and the 'female' flute: the latter constructed like a German 'Schalmei,' the former rather a small trombone, so far as the construction is concerned, as the natives prolong and shorten the hollow tube by means of a slide to produce different tones. Women are forbidden even to see these flutes."

Another instance where the tube is lengthened or shortened in a similar way is mentioned by Mr. Balfour[3] in his article on the Musical Instruments from the Malay States and Perak, where he describes the *sernei* or *whi*, a whistle from Bau Sai Kau. "This," he states, "is roughly made of wood, consisting of a plain tube, two and seven-eighths inches long, having a cylindrical bore. Externally it tapers towards the mouthpiece. At the narrower end the surface is cut through on one side, and a small slit is pierced through the flattened portion. There is no duct for directing the breath, which is guided against the edge of the hole by the lips of the performer. Inserted into the tube is a rough, short stick, which can be slid up and down the bore, and by this means the pitch is raised or lowered at will." In the present example the column of air is regulated, not by a stick inserted in the tube, but by sliding the bone tube in the tightly fitting case.

1398 TRANSVERSE FLUTE.[4] A tube of bamboo open at both ends. Seven finger-holes placed near the center of the tube. Badly cracked. 2. Transverse Flutes

Length, 1 foot 6 inches. Diameter, ⅞ inch.

1. Primitive Music, p. 93.
2. Musik und Tanz der Papuas, in Globus, vol. 56, No. 6, p. 81.
3. Fasciculi Malayenses, p. 8.
4. Exact locality unknown.

CLASS III VIBRATING MEMBRANES

Division 1 Struck Section A Drums 1 With one head

1392 DRUM.[1] A cylindrical shell of corrugated metal, probably a discarded powder can, the heads of skin laced together with cord.
Height, 10 inches. Diameter, 8 inches. Stick, 1 foot 1½ inches.

A similar drum is found among the North American Indians. cf. No. 3178, Drum, Apache Indians, Arizona, U. S. A., p. 138.

CLASS IV SONOROUS SUBSTANCES

Division 1 Struck

1493 RATTLE. A large nutshell cut in two points at one end, a piece of horn hung in the center as a clapper. New Ireland.
Length, 4¼ inches. Width, 2 inches.

1654 RATTLE. A bunch of small brown shells, or fruit-pits with pointed ends and highly polished, cut and strung on a cord.
Length of shell, 2 inches. Diameter, ¼ inch.

1400 KULEPA GANEZ. A solid block of wood with three openings cut through the center 2½ inches apart. These holes, 2½ inches at their base, taper to $\frac{1}{16}$ inch at the surface, where they are cut through, forming four divisions on the narrow side of the block, resembling broad, flat slabs of wood. New Ireland.
Length, 1 foot 4 inches. Height, 10 inches. Width, 5 inches.

In using this instrument the performer moistens his hands with the juice of the bread fruit palm, and by rubbing the surface of the wood can produce three distinct tones. It is sometimes called "the rubbing instrument" and is peculiar to New Ireland. In the northern part of the island it is called *lunut*. Like certain instruments found among the North American Indians, it is shrouded in mystery, women and boys being prohibited from participating in ceremonies where it is used. Ratzel, History, vol. 1, pp. 221, 222.

1. Bismarck Archipelago (?).

NOSE FLUTES, BULL-ROARERS, AND TIME MARKER, OCEANICA
PP. 29, 30, 40, 41, 45

2673 DRUM. Cut from a log of wood, hollowed out, with a narrow opening along the top and a small block projection at each end. The surface red, decorated with bands of geometric ornament carved in low relief stained in black and white. Admiralty Islands.
Length, 1 foot 11½ inches. Diameter, 7½ inches.

1402 JEWS' HARP. A slip of bamboo rounded at one end and tapering to a point. A vibrating tongue cut in the center. New Ireland. Length, 7 inches. Division 2 Plucked

AUSTRALIA

CLASS IV SONOROUS SUBSTANCES[1]

1840 BULL-ROARER or WHIRR. *Turdun* or *Bribbun*. A thin strip of wood, pointed at both ends and notched around the edge. A hole in one end and a string.
Length, 1 foot 2¾ inches. Width, 2½ inches. Division 1 Struck
The string is tied to the end of a long stick which is held in the hand. When this is twirled about the head, a whirring sound is produced. It is used to warn persons from the ceremonials in which none but the initiated are allowed to participate. Wallaschek. Primitive Music, p. 124.

738 BULL-ROARER or WHIRR. *Wilmurra*. Similar to No. 1840. Made from a wood called *gidya*, peculiar to Central Australia and found nowhere on the coast watershed. Algamurra Tribe, North Australia.
Length, 1 foot 1 inch. Diameter, 2 inches.
"At Morton Bay the *Wilmurra* is known as '*Wobbilcong*.' Each tribe uses two kinds, one about 6 inches in length and the other double that size. These instruments are used only during the ceremony when the young men are initiated in the rites and mysteries of the tribe, have the class marks cut on the right shoulder, receive their names as warriors, and their weapons, and become entitled to marry. During the whole of this ceremony one of the old men walks around the Bora circle whirling the *Wilmurra* and barking like a dog. The string attached is made of human hair. By holding it three or four feet

1. Classes I, II, III not represented.

Class IV
Sonorous
Substances
Division 1
Struck

from the *Wilmurra* and twirling it very slowly at first, it will begin to burr, the volume of sound increasing with the velocity. An experienced native ends the twirling with a spasmodic jerk, causing a loud unearthly shriek which I have heard on a calm night at a distance of two miles." W. I. Weatherill, Collector. Brisbane, Queensland.

Spencer[1] gives an interesting account of the history of the bull-roarer or *churinga* in Australia and describes the various totemic symbols with which they are often decorated. These symbols can be deciphered only by a member of the totem to which the emblem belongs.

Mr. Balfour[2] gives the Malay name for the whizzing-stick or bull-roarer as *berbaling* (*babaling* or *bebaling*). In the Malay States it is now almost obsolete. Formerly it was used for scaring elephants from plantations. In a further reference to this instrument, the same author also mentions three bamboo trumpets from the Northern Territory, South Australia, and describes them as both straight and curved, with ends cut square. A straight example from Port Essington is called *ebero;* this is in the British Museum. One from the gulf of Carpentaria, *oolomba*. Three in the Pitt Rivers Museum, Oxford, more or less curved, are called *mam-ma-lie*.[3]

Bourke[4] states that it is also used in the initiatory rites of the *bora*, and gives as its native name *terricoty*.

1836–1837 TIME MARKERS. *Mirambura*. Two round sticks of polished red wood, pointed at each end. A hole bored through the smaller end of each.

Length, 2 feet 5 inches. Diameter, 2 inches.

Kraus[5] describes a similar instrument from Jaluit Island of the Marshall group, used by the women to accompany the song. The performers sit on the ground in two rows facing each other, and each strikes the stick or club of her *vis-à-vis*. The native name is *dimuggemuck*, but, like the *atidir* of New Britain, which is almost identical, this instrument is now almost extinct.

1. Spencer and Gillen. Across Australia, pl. 84.
2. Fasciculi Malayenses, p. 11.
3. Man, pp. 33, 34.
4. Bur. of Ethnol. 9th An. Rep. 1887–1888. p. 479. Wash. 1892.
5. Di alcuni Strumenti Musicali, p. 2.

INSTRUMENTS OF THE SANDWICH ISLANDS
PP. 24, 26, 47–50

POLYNESIA

SANDWICH ISLANDS

CLASS I STRINGED INSTRUMENTS

727 GUITAR. *Ukulele.* European model. A shallow body of light wood, with soundboard having a single open hole. On the finger-board, twelve metal frets. A flat head with four pegs inserted from behind. Four gut strings fastened to a bridge on the soundboard. Hawaii. Section A Plucked Strings

Length, 1 foot 8½ inches. Width, 5½ inches.

This is not a Hawaiian instrument, but was introduced by the Portuguese about 1877, by whom it is made and sold. It is very popular with the modern natives, who give a peculiar swaying motion to the hand and wrist as the fingers sweep over the strings. It is sometimes called the "taro-patch fiddle," and the smallest size is designated by the natives as "the flea."

2136 GUITAR. *Ukulele.* Similar to No. 727. Hawaii.

Length, 2 feet 2½ inches. Width, 8¼ inches.

741 MUSICAL BOW. *Ukeke.* A flat strip of wood with two incisions at one end and a spur at the opposite end. Two gut strings and a small wooden bridge. Hawaii. Section B Struck Strings

Length, 1 foot 9¾ inches. Width, 1¾ inches.

When played, the bow is held between the teeth and struck with the fingers or a wisp of straw. The name is derived from the verb *u-ke*, to strike, used also to express the ticking of a watch. This instrument sometimes has three strings, and usually a bridge at each end; in this specimen one bridge is missing. It resembles closely the *kalove* of the Florida Islands. cf. Balfour. Musical

Bow, pp. 81-83. Mahillon. Catalogue, vol. 3, p. 346, No. 1908. Alexander. History, p. 91.

Mahillon[1] describes the *ukeke laau*, a musical bow with three gut strings, which he states is popular with lovers who place the ends of the bow between their teeth and pluck its strings with their fingers.

CLASS II WIND INSTRUMENTS

Section A Whistles 1. Vertical Flutes

735 WHISTLE. *Hano* or *Kio Kio.* A small, pear-shaped gourd pierced with three holes. It is sounded either by the nostril or the mouth. Hawaii.

Dimensions, 2 x 2½ inches.

The Tugeri of Melanesia have a similar whistle, used for signaling, and made from a small cocoanut. Ratzel. History, vol. 1, p. 222. A number of these whistles will be found illustrated and described in the Annual Report of the Smithsonian Institution (1900), U. S. National Museum, Washington, D. C., pp. 428-433. cf. also prehistoric whistles, the *foön* of the Chinese, No. 2324; also the pottery whistles of Mexico and Costa Rica. Balfour[2] gives the Malay name for clay whistles as *pulik*. The *hano* is described by Alexander.[3]

The *a-wuvu*, a similar whistle, made from a gourd, is found in New Britain (Neu Pommern), where it is used only by women. Kraus. Di alcuni Strumenti Musicali, p. 5.

2 Transverse Flutes

742 NOSE FLUTE. *Obe Hano.* A tube of bamboo closed at one end with four holes. Hawaii.

Length, 1 foot 5 inches. Diameter, 1⅜ inches.

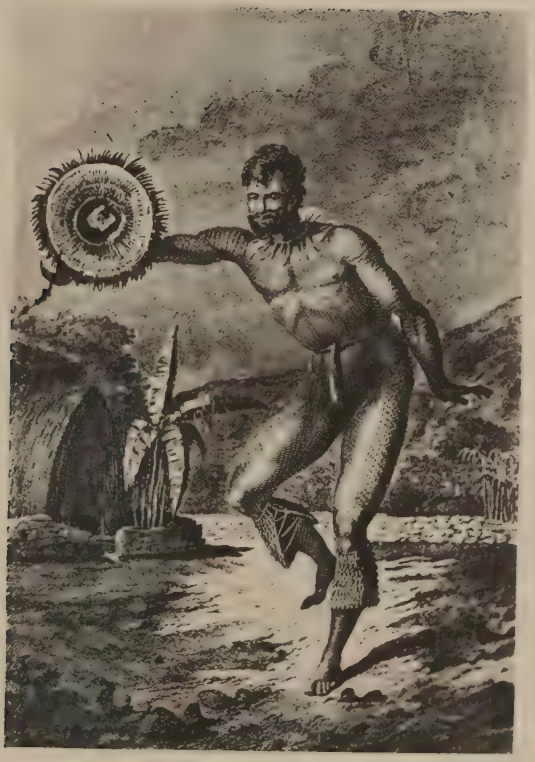
cf. Mahillon. Catalogue, vol. 3, 1900, p. 313, No. 1831.

CLASS III VIBRATING MEMBRANES

753 DRUM. *Puniu.* A small, bowl-shaped drum made from a cocoanut shell, the opening covered with fish skin. The beater a rope of twisted fibre. Hawaii.

Dimensions, 4¼ x 4½ inches.

1. Mahillon. Catalogue Descriptif et Analytique du Musée Instrumental du Conservatoire Royal de Bruxelles.
2. Fasciculi Malayenses, p. 9.
3. History, p. 91.



HULA DANCER MARKING TIME WITH THE ULI ULI, HAWAII

NO. 751, P. 49

FROM A PHOTOGRAPH

Alexander[1] states that this drum is always used with the *pahu* (No. 805). It is tied to the right knee of the performer and beaten with a knotted cord or rope.

Class III Vibrating Membranes
Division 1 Struck
Section A Drums
1. With one head

805 HULA DRUM. *Pahu* or *Kaekeeke*. A cylindrical shell of cocoanut wood rudely carved in an open design around the base. The top covered with shark's skin. Hawaii. Height, 1 foot 6 inches. Diameter, 11 inches.

A rare specimen. cf. Alexander. History, p. 91.

CLASS IV SONOROUS SUBSTANCES

Division 1 Struck

751 RATTLE. *Uli Uli*. A bottle gourd with a circular top edged with a fringe of red and white feathers and filled with Indian shot seeds (Canna).

Height, 10 inches. Diameter of gourd, 4½ inches; of top, 11 inches.

This rattle, or time marker, is used by the instructor of the *Hula* to mark the time in dancing and to accompany his chant. The *Hulahula* is a native dance described by Alexander.[2] Mahillon[3] also refers to the use of the *uliuli* in erotic chants called *mele*.

748–749 RATTLES or TIME MARKERS. *Pu Ili*. Two tubes of bamboo each with one end split into fine strips like a fringe. Hawaii.

Length, 1 foot 8⅝ inches. Diameter, 1¾ inches.

Used in the *Hula*. The dancers hold them in their hands and keep time as they strike their shoulders with the fringed end of the instrument. cf. Ratzel. History, vol. 1, p. 456, Sakalava instrument, Madagascar. Mahillon. Catalogue, vol. 3, 1900, p. 248, Nos. 1715, 1716.

739–740 HULA STICKS. *Hula Ka Laau*. Two sticks of dark red wood tapering at each end.

Lengths, (739) 2 feet 8⅞ inches, (740) 8½ inches.

Used for marking time in a dance of the same name. The longer stick is held in a horizontal position and struck by the shorter stick held in the right hand.

1. History, p. 91.
2. History, p. 92.
3. Catalogue, vol. 3, 1900, p. 249, No. 1717

Class IV Sonorous Substances Division 1 Struck

754 DRUM. *Pa Ipu* or *Hokeo.* A large gourd with a smaller one fastened on top of it. Beaten with one hand while the other holds the loop of cloth fastened at one side to steady the drum.
Height, 2 feet 6 inches. Diameter, 12 inches.
Used in the *hula.* The drums are principally used to mark the time, and as an accompaniment to dancing or chanting. Alexander. History, p. 92.

NEW ZEALAND

CLASS II WIND INSTRUMENTS[1]

Section A Whistles 1. Vertical Flutes

1754 FLUTE. *Putorino.* Two pieces of hard wood, broad at the center and hollowed out; the ends tapering. These are bound together, leaving an opening at one end. On one side, at the center, a grotesque face carved in the wood, the mouth widely open. At each end a carved ornament.
Length, 1 foot 10 inches.
"It has been suggested that these instruments are blown in the same way as the trumpet or horn, but the native name and all descriptions of the instrument point to its being a vertical flute, though it is difficult for us to sound the larger specimens in this way. Whether the *putorino* was used as a nose flute is an open question: the native name for the nose flute appears to be *nguru.*
"Hamilton (Art Workmanship of the Maoris) calls this instrument a flageolet and says the larger end is placed to the mouth and the sound is modulated by closing the fingers over the opening in the center." F. W. Galpin.

1561 FLUTE. *Putorino.* Similar to No. 1754.
Length, 1 foot 6 inches. Diameter, 2 inches.

1829 FLUTE. A cylindrical tube of wood, badly broken at one end. The surface elaborately carved; three finger-holes near the opposite end, which is open.
Length, 1 foot.

2636 FLUTE. A short tube of hard wood, carved in lines and circles characteristic of New Zealand work. A slight

1. Classes I and III not represented.

NATIVES DANCING THE HULA, HAWAII

FROM A PHOTOGRAPH

elevation on one side pierced with a single hole. Two holes near one end of the tube and one at the opposite end; both ends open.
Length, 5¾ inches.
With all the holes and one end closed, this sounds C; with only the end closed, B.
Wallaschek[1] states that the New Zealanders have a nose flute and as well a pipe (*he koauan*) with two holes, made of a whale's tooth. They also make flutes from the bones of slain enemies.

CLASS IV SONOROUS SUBSTANCES

2605 HAND DRUM. A conical shell of wood, the surface polished and ornamented with a band of carved ornament around the base. The sides flat and projecting like the iron bells of West Africa. A small circular handle at the top with a cord of twisted fibre. Division 1 Struck
Height, 10 inches. Diameter, 4¾ inches.
Wallaschek,[2] quoting Wood, states that the New Zealanders do not possess a drum. This instrument is probably used more as a time marker. The Maoris have a bell (*pahu*) which is used for the purpose of war.[3]

744 JEWS' HARP. A slip of bamboo, with a vibrating tongue cut in the center, to which a shell is attached by a cord. Division 2 Plucked
Length, 9 inches. Diameter, 1¼ inches.

745 JEWS' HARP. Similar to 744, but without the shell.
Length, 11 inches. Diameter, 1½ inches.

747 JEWS' HARP. Similar to No. 745.
Length, 7¾ inches. Diameter, 1¼ inches.

1. Primitive Music, pp. 93, 94.
2. Idem, p. 109.
3. Angas. Savage Life, p. 152.

MICRONESIA

CLASS III VIBRATING MEMBRANES[1]

Division 1 Struck Section A Drums 1 With one head

807 DRUM. Cut from a log of wood in the shape of an hour glass. A single head of membrane fastened by a cord in a groove.
Height, 2 feet 2½ inches. Diameter, 9 inches.

1. Classes I, II and IV not represented.

HULA DANCERS ACCOMPANIED BY THE PA IPU OR HOKEO,
HAWAII, NO. 754, P. 50

FROM A PHOTOGRAPH

AMERICA

PÁ-YATAMU, ZUNI GOD OF MUSIC

NORTH AMERICA

INDIAN TRIBES NORTH OF MEXICO
THE NORTHWEST COAST

CLASS I STRINGED INSTRUMENTS[1]

566 A shallow circular body cut from a block of wood. A straight, long neck finished in a scroll, and a wooden sound-board pierced with a group of small holes. The back flat, the sides decorated with burnt lines. Four pegs inserted beneath the scroll; strings of sinew. movable wooden bridge. Tribe: Yakutat. Family: Koluschan or Tlingit. Locality: Yakutat near Mt. St. Elias, Alaska.

Section A Plucked Strings

Length, 2 feet 3 inches. Width, 10 inches.

Brown. Musical Instruments, note, p. 304.

This instrument resembles the German cittern. cf. Nos. 983, 1011, 1016, European Section.

cf. also U. S. Nat. Museum Coll., No. 20,792.

The Yakutat are a Koluschan or Tlingit tribe centering around Yakutat Bay; they extend northward to Copper River and southward to Dry Bay, Alaska.

1. The classification of the European instruments (see p. 249), which divides them into four groups—

Class I Stringed Instruments
" II Wind Instruments
" III Vibrating Membranes
" IV Sonorous Substances

has, as far as possible, been followed in the different sections of the catalogue. In the present instance, however, while the general grouping has been adhered to, many sub-sections are vacant, *i.e.*, Class I, Section A—Plucked strings being represented only by the lute type, while Class II has been enlarged to cover the variety of types found among the wind instruments of the Northwest Coast. For the complete classification of wind instruments of the Northwest Coast see page 58.

So far as is known, the stringed instruments found in America, with the

Class I Stringed Instruments Section A Plucked Strings

564 Similar to No. 566. A shallow circular body of wood with a long neck finished in a scroll. Open peg-box, one peg, and a string of twisted sinew. The sound-box decorated with a symbolic design of the eagle or *Got* in red and black. Tribe: Yakutat. Family: Koluschan or Tlingit. Locality: Yakutat near Mt. St. Elias, Alaska.
Length, 2 feet. Width, 6¼ inches.
Brown. Musical Instruments, No. 2, pl. "Alaska," also p. 304.

The Koluschan or Tlingit, the Chimmesyan, and the Skittagetan or Haida groups seem to show greater adaptability to civilization and to display less religious conservatism than the tribes farther south. Of these the Haida were the best carvers, painters, and canoe and house builders, and they still earn considerable money selling carved objects of wood and slate to traders and tourists. The tribe is divided into two clans, the Raven (*Hooyeh*)[1] and the Eagle (*Got*), each of which has numerous subdivisions. The symbols of these groups form the family crest or totem and surmount the carved poles placed in front of the dwellings; they also ornament the household utensils and, among the Haida where tattooing is a fine art, each member of a clan bears on his body as means of identification, the totem or symbol of the phratry or clan to which he belongs.[2]

The Eagle or Thunder-bird[3], shown in the decoration of No. 564, occupies an important place in the mythology of the North American Indians. On the Northwest Coast the myth surrounding it deals with a gigantic bird that takes whales in its claws and devours them, the flapping

probable exception of the musical bow, may be traced to the more recent European and African settlers. On the northwest coast, in a few instances, Asiatic and Oceanic influences are apparent. The only native names found in this locality for stringed instruments are *ki-gu-i-lu-li-ag-i-ag-ok* (U. S. Nat. Museum Coll. No. 90,201), an Eskimauan fiddle with two strings of twisted sinew; and *tshan-jak* (U. S. Nat. Museum Coll. No. 72,553), a modified form of the Russian *balalaika*.

1. cf. Boas. The Decorative Art of the Indians of the North Pacific Coast. Amer. Museum of Nat. Hist. Bul. 9, 1897, p. 123. Mallery. Picture Writing of the American Indians. Bur. of Ethnol. 10th An. Rept. 1888–1889, p. 397 ff. p. 428 ff. p. 477 ff. Wash. 1893.
Kroeber. The Decorative Symbolism of the Arapaho. Amer. Anthrop. New Ser. vol. 3, p. 308, 1901.

2. cf. Bur. of Amer. Ethnol. Bul. 30, pt. 1, p. 520. Wash. 1907.

3. Dall. Masks, Labrets and Certain Aboriginal Customs. Bur. of Ethnol.

of whose wings produces thunder, and who launches a supernatural fish (Hippocampus) which appears to mortals as lightning.

The Dakota (Siouan) have a similar myth in regard to a storm bird that dwells in the upper air, beyond the range of human vision, carrying on its beak a lake of fresh water; when it winks its eyes there is lightning; when it flaps its wings we hear the thunder; and when it shakes out its plumage the rain descends.

567 A pear-shaped body of wood with a flat front and back, the neck and body of uniform depth. Neither peg-box nor scroll. A single peg at the top in front, and one string of twisted sinew. Four wooden frets on the neck. The sound-box fastened with brass tacks. One crescent-shaped sound-hole. Entire surface colored blue. Tribe: Yakutat. Family: Kaluschan or Tlingit. Locality: Yakutat near Mt. St. Elias, Alaska.

Length, 1 foot 8½ inches.

Brown. Musical Instruments, note p. 304.

The Eskimo of Ungava Bay, Labrador, have a similar instrument which they name *ki-gu-i-lu-li-ag-i-ag-ok*. U. S. Nat. Museum Coll. No. 90,201. cf. also U. S. Nat. Museum Coll. No. 45,971.

The bright blues and yellows found in some of the modern Indian work are dyes obtained from traders. The blue used in this instance may be pulverized phosphate of lime derived from decayed fossil bones, or carbonate of copper, or a certain soft mineral, *nahital*, found in the caves on the coast, which when pulverized produces a greenish-blue color; the oxide of iron produces ochre, and ordinary soot or pulverized charcoal is used for black.[1]

3123 GUITAR. European model. Made from the copper sheathing of a vessel. Fifteen frets on the neck. One cir-

3d An. Rept. 1881–1882, p.119 ff. Wash., 1884. Mallery. Picture Writing of the American Indians. Bur. of Ethnol. 10th An. Rept. pp. 208, 483.
Chamberlain. The Thunder-bird amongst the Algonkins. Amer. Anthrop. vol. 3, p. 51, 1890.
Eels. The Thunder-bird. Idem, vol. 2, p. 329, 1889.
Boas. The Social Organization and the Secret Societies of the Kwakiutl Indians. Smith. Inst. An. Rept. 1895, p. 638. Wash. 1897.

1. Mallery. Picture Writing of the American Indians. Bur. of Ethnol. 10th An. Rept. 1888–1889, p. 219. Wash., 1893.
Boas. The Kwakiutl of Vancouver Island. Amer. Museum of Nat. Hist. Mem. 5, pt. 2, p. 402. 1905.

cular sound-hole. Head pierced for twelve pegs (all miss ing). One wire string. Tribe: probably Yakutat. Family Koluschan or Tlingit. Locality: Alaska.
Length, 2 feet 2 inches. Diameter, 10 inches.

The tribes of the Northwest Coast have always been skilfu metal workers; formerly copper was obtained from th valley of the Copper River and elsewhere, but the greate part of it is now imported. It is largely used for utensils for whistles, rattles,[1] and masks; also shield-like "cop pers" portraying the various totemic emblems are highl esteemed as symbolic of wealth. The origin of thes coppers has never yet been determined, but many inter esting specimens have been found in Indian mounds o the Middle and Southern States.[2]

CLASS II WIND INSTRUMENTS

The large variety of wind instruments found among thes tribes has made it necessary to amplify the specified classification Through the courtesy of the Rev. F. W. Galpin, who has made special study of these types, the classification availed of in cata loguing this part of the collection is that designated in his valuabl paper on The Whistles and Reed Instruments of the America Indians of the Northwest Coast, and is as follows:[3]

GROUP A. WHISTLES

Class I. Without Finger-holes

Division a. Mouth-blown

Section 1. Stopped Pipes. (As well as the simple form, there ar twin, triple, quadruple, quintuple, and sextuple whistles
Section 2. Half-stopped Pipes.
Section 3. Open Pipes.

1. A unique rattle, No. 64,028, in the Peabody Museum, Cambridge, is mask of copper edged with a fringe of stiff hair, the open mouth showin teeth of abalone shell. The forehead bears the eyes of the owl, commem rating the myth of the Indian maiden decoyed in a wood by an owl who she married.

2. See article on copper in Bur. Amer. Ethnol. Bul. 30, pt. 1, p. 343. Wash 1907–1910. Also Wilson. Prehistoric Art. Smith. Inst. An. Rept. 189 p. 499 ff. Wash. 1898.

3. This classification was compiled by Mr. Galpin from personal examinatio of numerous specimens, some in his private collection, others in the U. Nat. Museum, the Metrop. Museum of Art and the Amer. Museum of Na History, the British Museum, the Pitt-Rivers Museum, Oxford, and th Ethnographical Museum, Cambridge; also from detailed and illustrate descriptions of collections at Victoria, B. C., and Berlin, and from observ tions of Dawson, Swan, Niblack, and Boas.

Division b. Mechanically Blown

Section 1. Stopped Pipes. (As well as the simple form of whistle a double form mechanically blown is also found.)
Section 2. Half-stopped Pipes.
Section 3. Open Pipes. (No example of this at present observed.)

CLASS II. WITH FINGER-HOLES

Division a. Mouth-blown

Section 1. Stopped Pipes.
Section 2. Half-stopped Pipes.
Section 3. Open Pipes. (Generally of slate and after European models.)

Division b. Mechanically Blown

(No examples with finger-holes at present observed.)

GROUP B. REED INSTRUMENTS

CLASS I. WITHOUT FINGER-HOLES

Division a. Mouth-blown

Section 1. Double-beating Reeds:
- i. Lipped.
- ii. Covered. (As well as the simple form, there are twin, triple, and quadruple covered reeds.)

Section 2. Single-beating Reeds:
- i. Lipped. (Also a twin form.)
- ii. Covered. (Also a "double-action" form.)

Section 3. Retreating Reeds:
- i. Terminal. (Also a twin form.)
- ii. Lateral. (Also a twin form.)

Section 4. Ribbon Reeds. (As well as the simple, there is also a multiple form.)

Division b. Mechanically blown

Section 1. Double-beating Reeds.
Section 2. Single-beating Reeds. (No example at present observed.)
Section 3. Retreating Reeds. (No example at present observed.)
Section 4. Ribbon Reeds.

CLASS II. WITH FINGER-HOLES

Division a. Mouth-blown

Section 1. Double-beating Reeds.
- i. Lipped.
- ii. Covered.

(No examples of Single-beating, Retreating, and Ribbon Reeds with finger-holes at present observed.)

Division b. Mechanically Blown

(No examples with finger-holes at present observed.)

The environment which gave birth to this primitive cultur a culture that evolved the same principles as those demonstrate in the woodwinds of the modern orchestra, is graphically portraye by Mr. Galpin,[1] who describes the region in which these types orig inated as follows:

"The Pacific seaboard which bounds the territory of Britis Columbia on its west side is marked by frequent inlets backed b high mountain ranges and fringed with numerous islands, whos rocky heights, crowned with spruce and cedar, testify to thei having at one time formed part of the mainland itself. Scattere along this coast in a territory about a thousand miles long by on hundred and fifty miles wide and separated from the inhabitants o the interior by natural barriers of hill and forest, are certain India tribes of a peculiar and distinct character. Not only are thei complexions surprisingly light colored,—in some instances almos as fair as those of Europeans and in no way due to recent inter mixture with white races,—but in customs and laws, in art an handicrafts, they show themselves superior to all other existin Indian tribes. . . . Their technical skill is shown more particularly in weaving,[2] and carving, and specimens of their work in ou museums testify to their remarkable ability. But while ampl justice has been done by writers and explorers to these branche of industry, an equally remarkable development has been eithe overlooked or dismissed in a few short and unscientific comments

"I refer to the use amongst these tribes of certain wooden whis tles and reed instruments which cannot but astonish musicians by their constructive excellence and striking originality. It may be that in the words of Lieut. Niblack, 'some of their devices of this kin are essentially for the purpose of making a hideous noise,' but th musical antiquarian will regard principles as well as effects; an among these distant tribes of the Northwest Coast are to be found not only the principles of sound production employed in our modern organs and orchestral instruments, but also new ideas which will perhaps suggest musical possibilities at present unknown to us."

Regarding the source from which these types are derived and comparing them with those of other existing North American tribes, Mr. Galpin further states:

"Amongst some tribes the simple vertical tube blown on the upper edge, as in the Arabian *nei* or the Japanese *shakuhachi*, is still

1. Galpin, F. W. The Whistles and Reed Instruments of the American Indians of the Northwest Coast. Proceed. of the Musical Assn. 29th Session, Lond. 1902–1903, pp. 115–116, 133–136.

2. cf. Mallery. Chilcat Ceremonial Garb. Bur. of Ethnol. 10th An. Rept. 1888–1889, p. 428 ff. Wash. 1893. Also Bur. Amer. Ethnol. Bul. 30, pt. 2, p. 928. Wash. 1910.

used. Amongst others, the popular whistle is a small bone with a notch or vent-hole cut in one side and the end plugged with asphaltum or gum, except where a narrow wind-way is left to direct the air upon the lower edge of the hole (No. 2760, p. 113). Even in the *chotonka* (No. 3371, p. 126) or 'courting flute' of the Kiowa, Dakota, and other Indians, with its six finger-holes and evidently European improvements, the whistle is far more rudimentary than in the specimens from the Northwest Coast; while as regards reed instruments, I am not aware that any like those described are in use, unless recently introduced from other continents.[1]

"We can hardly suppose, however, that, clever and ingenious as the Northwest Coast Indians are, the principles of sound-production used by them are wholly original.

"I am strongly of (the late) Professor Mason's opinion, expressed in the Smithsonian Report, 1886, that 'it is an important principle which archaeologists sometimes overlook, that arts may survive and obey the laws of technical evolution, even though the men through whose instrumentality they live and have their being have no immediate blood relationship.' If then we can find a people using the constructive peculiarities here described, without necessarily asserting a blood relationship, we may suppose that communication of some sort must have at one time existed between them.

"The question therefore is not only what peoples are likely to have come in contact with these Indians, but also how far are the sound-producing principles common to both. I do not propose to enter into the history of the discovery by Europeans of the Northwest Coast[2]—for traces of European influence, chiefly French and British, on the musical instruments during the past 120 years have been already alluded to, and in the case, for instance, of the simple single-beating reed are fairly evident.

"At the close, however, of the eighteenth century there was a constant trade between this coast and China, and it has been suggested that the advanced skill and technical power of these Indians is due to some such—perhaps still earlier—communication with the Asiatic Continent. But it is not borne out by the musical instruments, at any rate; for the employment of the whistle was unknown to the Eastern Asiatics until a comparatively recent period, their flutes being blown either vertically on the upper edge or transversely.

1. In the U. S. National Museum collection (No. 165,926), there is a moose call with a single-beating metal reed from the Cheyenne (Algonquian), similar to No. 617, p. 128.

2. cf. Dawson. Report of Progress. Geolog. Survey of Canada, 1878–1879, 8B ff.

Again, the especial form of vibrator peculiar to these Eastern people —the free reed—is entirely absent, though it would have been quite easy to construct the reed of wood as is done by the Malays. I do not think that the trade with China or the arrival of any Japanese voyagers can have given to these Indians such musical principles as they have.

"Were it, on the other hand, Russian influence coming from the north, I do not imagine we should find the tribes most exposed to that influence (in what was once known as Russian America, now part of Alaska) contenting themselves with a drum and a rude rattle of claws and beaks and altogether ignorant of these instruments.

"It appears to me that we must look to Central America—Mexico and the home of the Aztecs—for the main source of inspiration. The whistle-head was exceedingly well known to this highly-civilized nation. The ruins of their temples and sepulchres have produced large numbers of specimens—some simple whistles, others double, others with finger-holes. But how did the communication between the two peoples take place? It may be, as Professor Mason has kindly suggested to me, that the Aztec tribes came in contact with the Northwest Coast tribes overland, for the Shoshoni Indians —an Aztec tribe—pushed as far north as the 49th parallel, practically touching the Coast Indians at their southern limit. Or the knowledge of the whistle-head may have reached them by sea—by coasting canoes,[1] or through the traffic which we know was maintained, after the fall of the Aztec power, all along the Northwest Coast by the Spaniards.

"Had the Spaniards, however, introduced it through European channels alone, and not as the conquerors of Mexico, we should, I believe, have found a more general use not only of instruments with finger-holes, but of instruments with six finger-holes instead of the four or fewer holes characteristic of the primitive Indian flutes and Aztec whistles. From the same source came probably the double-beating reed, though owing to the perishable nature of the wooden vibrators (for they could not be constructed of pottery or stone like the whistles) we have no Aztec specimens extant. The shape of the reed tapering to a point instead of widening out from a narrow base is distinctly peculiar and unlike the European and Asiatic reeds.[2]

1. The Tsimshians, who are coast dwellers settled at the mouth of the great Skeena River, are known to have communicated to the Haida Indians of Queen Charlotte Islands the knowledge of the mystic rites with which the whistles are associated.

2. It is interesting to note in connection with the description given above of

"In the religious ceremonies of the Aztecs, which were human sacrifices, music too played an important part, and a flute (so-called) was broken by the chosen victim before he met his death.

"Linguistic[1] and other affinities also tend to confirm this theory that at some time and in some way a contact was formed between these coast dwellers and the tribes whose civilization was centered in Mexico.

"Whether the Aztecs or their predecessors the Toltecs originated the whistle-head we cannot say, or whether they brought it direct from some ancient Siberian home. Perhaps after all the myth of the white man who came across the Atlantic in a boat and taught them the arts and gave them the brighter and better side of their religion[2] may have been a fact, and that Europeans had visited the land of Anahuac before Cortes and his destroying horde closed the history of a highly cultured nation, and so successfully—alas, so unfortunately!—obliterated their past."

It seems fitting that the origin of these interesting types should remain shrouded in mystery when one considers the important place they hold in the religious ceremonies of a people who live and breathe in an atmosphere laden with mysticism.

Superstition still abounds in all this region; and while the younger generation have to a certain extent abandoned many of the ancient rites, even the more enlightened native still retains his love for ceremonial and at times returns to the old customs.

Among these people the belief is held that two classes of beings inhabit the earth; one human, the other superhuman. The land was created for the former, while the latter dwells in the ocean, the rivers, lakes, and forests. The most important man in the tribe is the *shaman* or medicine man, who may also occupy the position of chief. This office usually passes from uncle to nephew, who inherits

the hour-glass form of instrument containing a concealed beating reed, that in the mounds of Tennessee, Georgia, and the neighboring states certain stone tubes of hour-glass form have been found and are generally supposed to be trumpets. Owing, however, to the large diameter of the upper end it is difficult, perhaps impossible, to sound them by the vibration of the lips, though the sound has been described by writers as terrific. And such would be the case if a wooden reed were inserted at the waist as in the common form of concealed reed found amongst the Northwest Coast tribes. cf. Wilson. Prehistoric Art. Smith. Inst. An. Rept. 1896, p. 581. Wash. 1898. Amongst the ruins of Mexico have been found specimens of the *Chayna:* if this was identical with the *Jaina* of some existing Indian tribes of Peru, it was played with a double-beating reed. The Aztec *acocotl* was also played with a reed. cf. Engel. History of Musical Instruments, p. 73.

1. In the Koluschan (Tlingit) family remote analogies to the Mexican tongue are in several of the northern tribes more marked than in any other (Gallatin).

2. In this golden age, we are told, the air was filled with the sweet melody of birds. Were these the newly-formed whistles? Native song birds are rare.

not only the honorary degree, but as well the paraphernalia of office, which consists of head-dresses, masks, ceremonial blankets, whistles, rattles, and drums used to accompany the incantations. Disease is usually attributed to one of three causes,—the temporary absence of the soul, which the shaman has the power to locate by means of incantations, the machination of some enemy, or the possession by the evil spirit. The shaman receives his power from some one of the supernatural beings, by whom he is chosen as a medium through which to make his existence felt in the world of man; and while so possessed the shaman's own identity is practically abolished,—he must dress and speak as directed by the spirit, although it may be in a language with which he is not familiar when in his normal condition. His services are retained by gifts, which, however, must be returned if his efforts prove futile, an offence sometimes punished by the forfeit of his own life. In other cases where the office is not obtained by inheritance, the candidate qualifies for the position by an exhaustive fasting process, at which time, if found worthy, the spirit enters and takes possession of the body, endowing the recipient with supernatural powers. In all of the ceremonials that attend the office of these priests the whistle and rattle hold a prominent place. The whistles, the general name for which is *sk-a'na*, represent the voice of the supernatural "power" speaking through the shaman; they are made in a simple but clever manner described by Mr. Galpin: "A piece of straight-grained wood, preferably red cedar,[1] is procured and shaped outwardly by means of a knife to the required form. This is sometimes pear-shaped, but generally resembles an oval or cylindrical tube. Oftentimes it is square with one flat face and a rounded back,—more rarely a flattened, truncated cone. The wood is then split lengthwise along the grain,—the lower half is hollowed out with great neatness until the sides are quite thin, a small block being left at the lower end and a large block at the upper. The other half is treated in the same way, but the hollow is not so deep, and an opening is cut through the sides,—the wood being cut away on the outside to form a lip. The upper blocks of both halves are then slightly grooved to form a shallow channel which, when the two pieces are fitted together again, allows free passage for the air over the languid or whistle embouchure. So deftly is the wood split that no glue is required to render the joined pieces air-tight, but the whole is bound in two or three places with split spruce root or

1. Besides red cedar (Thuja gigantea), spruce (Picea menziesii) and cypress (Chamaecyparis nutkaensis) are used. The wood was originally worked with flint, bone, or jade knives, and rubbed down with shark's skin. Iron was introduced by the Russians about 150 years ago, 1760.

shredded cedar bark,—more rarely with animal sinew,—and either left the natural color or painted with appropriate devices. In some cases, especially with rude, ancient specimens, either the shrinkage of age or the imperfect splitting of unsuitable wood has required an outward application of dark resin along the joint,—an unsightly but nevertheless efficient repair. The voicing of the whistles is wonderfully good and would do credit to many a professional organ builder."[1]

The coast tribes of the Koluschan or Tlingit,[2] Skittagetan or Haida,[3] Chimmesyan and Wakashan[4] families are so closely allied and their social organization[5] so similar that there are few characteristics by which the ceremonial whistles and rattles of one tribe can be distinguished from those of another. Among the Haida there is more ornamental carving, and while split spruce root or cedar is used as binding on the whistles of the inland tribes, those of the coast frequently use strips of animal sinew. Among the northern tribes the whistles are often made of walrus ivory. The general name given by Franz Boas for whistles and reed pipes in this locality is *sk-a'na* or *sqa'na*, a term of Haida origin. The Tlingit name is *to-ux-siget*, the Tsimshian *nex-no*, and the Kwakiutl *metses*. A whistle used in the cannibal ceremonials, practised until recently among the Kwakiutl and some of the other tribes, bears the name *tse'ko-ka-la*, while another ceremonial whistle is called *nau'alag*.

E. H. Hawley of the U. S. Nat. Museum furnishes still other names from the Nimkish and Awi ky'enoq villages of the Kwakiutl.

1. Galpin. The Whistles and Reed Instruments of the American Indians of the Northwest Coast. Proceed. of the Musical Assn., 29th Sess., Lond., 1902–1903, p. 118 ff.

2. See Linguistic Tribes, p. 251.

3. Haida. The native and popular name for the Indians of the Queen Charlotte Islands, B. C, and the south end of Prince of Wales Island, Alaska, comprising the Skittagetan family. Bur. of Amer. Ethnol. Bul. 30, pt. 1, p. 520. Wash., 1907–1910.

4. The two great divisions of the Wakashan linguistic stock are the Kwakiutl and Nootka. The Kwakiutl center around Ft. Rupert, B. C.; the Nootka on the west coast of Vancouver Island and Cape Flattery, Wash.

5. Boas. The Social Organization and the Secret Societies of the Kwakiutl Indians. Smith. Inst. An. Rept. 1895, p. 651 ff. Wash., 1897.
Swanton. Types of Tlingit and Haida Myths. Amer. Anthrop. New Ser. vol. 7, p. 94. 1905.
Idem. Social Organizations of the American Tribes. p. 663.
Dubois. Religious Ceremonies and Myths of the Mission Indians. Idem, p. 520.
Brit. Museum. Handbook of the Ethnog. Coll., p. 273.
Ethnol. Dict. of the Navaho Sociology, p. 422.

In the former village a wooden pipe with an enclosed double reed is called *ts'e-kokyala*, a whistle *metses*. In the Awi ky'enoq village one used at the potlatch[1] is named *k'os;* a dance whistle, *te'qatsk*, and two others, *k'oak'omolakula* and *huek'oa*. The *ts'etsaeqa* is a small sacred whistle used at the commencement of the winter ceremonies, not to be seen by the uninitiated. The Eskimo have a wooden whistle called *ku-ku-mi-agach-shun*.

STOPPED PIPES. There appears to be every reason for supposing that the stopped pipe is the form earliest in use among these tribes; it is the type most frequently met with and the oldest existing whistles are of this kind.[2]

Group A
Whistles
Class I
Without
Finger-holes
Division a
Mouth-blown
Section 1
Stopped Pipes

2683 STOPPED PIPE. Cylindrical model hollowed out from a block of wood, bound together with cord. The tube below the mouthpiece painted red.
Length, 7⅛ inches. Diameter, 2 inches.

2598 STOPPED PIPE. Cut from two blocks of wood hollowed out and the edges of the two sides cemented with resin. A rounded back and flat front, broad at the base and tapering to the mouthpiece, a protecting spur on each side.
Length, 7¼ inches. Width, 3 inches.

2685 STOPPED PIPE. Flat model with rounded back, the two sections cemented with resin.
Length, 4 inches. Width, 2⅞ inches.

1745 STOPPED PIPE. Cylindrical model with flat front, the two sections bound together with cord.
Length, 4 inches. Diameter, 1½ inches.

1. From the Nootka word *patshatl*, giving or gift. One of the great winter ceremonials at which a member of a tribe would call his neighbors together and present them with gifts—blankets, horses, etc.—thus disposing of the greater part of his property. As a result he was held in high esteem by his fellow-townsmen, and when the next man "pot-latched", his gifts were returned with interest. These ceremonials were usually held to celebrate the erection of a family totem pole or the tattooing of a certain member of the family. Bur. of Amer. Ethnol. Bul. 30, pt. 2, p. 293. Also Boas. Smith. Inst. An. Rept. 1895, p. 341 ff. Wash., 1897.

2. Galpin. The Whistles and Reed Instruments of the American Indians of the Northwest Coast. Proceed. of the Musical Assn. 29th Sess., Lond. 1902–1903, p. 118.

2249 STOPPED PIPE. Cylindrical model, the two sections originally bound together with split bark, the lower binding missing.
Length, 4¾ inches. Diameter, ¾ inch.

2246 STOPPED PIPE. Cylindrical model, the two sections bound together with split bark.
Length, 3 inches. Diameter, ¾ inch.

2243 STOPPED PIPE. Cylindrical model, the front carved to represent a face with open mouth. The two sections originally bound with a strip of sinew, upper binding missing.
Length, 2⅝ inches. Diameter, ⅝ inch.

2242 STOPPED PIPE. A small bone whistle, one end closed with resin; a hole on one side midway between the two ends.
Length, 2⅜ inches.

2240 STOPPED PIPE. A small bone whistle, the lower end closed with a pointed wooden plug, the outside wound with dried roots or tendrils.
Length, 2 inches.

Bancroft,[1] writing of the Nootka Indians (Wakashan), states that all dances, as well as other ceremonies, are accompanied by continual music, instrumental and vocal. The instruments of the Nootka consist of rattles made of dried sealskin in the form of a fish, containing pebbles, which with whistles of deer bone about an inch long with one hole, can only be used by the chiefs; mussel shells (cf. No. 624, p. 101) strung on a cord, used as rattles; boxes and benches, and planks hollowed out on the under side, beaten with sticks, used to mark the rhythm of the dance.

691 STOPPED PIPE. A rounded block of wood tapering at one end, split in half, the sides hollowed out and bound together with cord, the edges cemented with resin and covered with a strip of cloth.
Length, 1 foot 11 inches. Width, 2¾ inches.

1. Bancroft. The Native Races of the Pacific States of America. vol. 1, p. 200. 1872.

Group A
Whistles
Class I
Without
Finger-holes
Division a
Mouth-blown
Section 1
Stopped
Pipes

2250 STOPPED PIPE. Flat model, with rounded back of wood, the front of bone, the sides cemented and bound together with cord and strips of animal sinew. Family: Skittagetan (Haida). Locality: Queen Charlotte Islands.
Length, 6½ inches. Width, 1¾ inches.

1977 STOPPED PIPE. Flat model, the back of wood, the front of walrus ivory, the two sides cemented with resin and bound together with cord.
Length, 8 inches. Width, 1⅜ inches.

2244 STOPPED PIPE. Carved in the form of a fish, the two sides cemented with resin and bound together with strips of animal sinew.
Length, 8 inches. Diameter, 2½ inches.

2679 STOPPED PIPE. Quadrangular model, with flat sides tapering to the mouthpiece. Three bindings of split bark.
Length, 10½ inches. Diameter, 1¾ inches.

2777 STOPPED PIPE. Carved in the form of a fish (whale?). The two pieces cemented with resin and bound together with strips of animal sinew.
Length, 11 inches. Diameter, 2½ inches.

1506 STOPPED PIPE. Cylindrical tube cut from a solid piece of wood, split in half and hollowed out, the two sides bound together with a cord of twisted sinew. Family: Skittagetan (Haida). Locality: Queen Charlotte Islands, B. C.
Length, 1 foot 5 inches. Diameter, 1⅞ inches.

2252 STOPPED PIPE. Flat model, bound with split bark. Family: Skittagetan (Haida). Locality: British Columbia.
Reproduction of No. 89,066, U. S. Nat. Museum Coll.
Length, 1 foot 1¾ inches. Width, 3 inches.
cf. Smith. Inst. An. Rept. 1888, pl. LXII, No. 333. Wash. 1890.

2596 STOPPED PIPE. Flat model, with rounded back, bound with split bark. Family: Skittagetan (Haida). Locality: British Columbia.
Length, 11¾ inches. Width, 2 inches.
cf. Smith. Inst. An. Rept. 1888, pl. LXII, No. 331. Wash. 1890.

WHISTLES. INDIANS OF THE NORTHWEST COAST
PP. 68, 69, 71–73

2778 STOPPED PIPE. Cylindrical model, tapering to the mouthpiece, the sides cemented with resin, the front carved. The carving on the whistle represents the bear, a totemic emblem of the Haida. Family: Skittagetan (Haida). Locality: Queen Charlotte Islands, B. C.
Length, 12 inches. Diameter, 2 inches.

The Haida version of the origin of the bear totem is as follows: "A number of Indian squaws were in the woods gathering berries when one of them, the daughter of a chief, spoke in terms of ridicule of the whole bear species. The bear descended on them and killed all but the chief's daughter, whom the king of bears took to wife. She bore him a child half human and half bear. One day a party of Indian bear hunters discovered her in a tree and were about to kill her thinking her a bear, but she made them understand that she was human. They took her home and she afterwards became the progenitor of all Indians belonging to the bear totem. They believe that bears are men transformed for the time being."[1]

Dawson states that a single system of totems (Haida, Kwalla) extends throughout the different tribes of the Haida, Kaigani, Tsimshian, and neighboring peoples. . . . The totems found among these peoples are designated as the eagle, wolf, black bear, and fin-whale or killer.[2]

2506 STOPPED PIPE. (Double.) Quadrangular model, with back slightly rounded, the front flat. The tube divided in the center, a whistle at each end.
Length, 13½ inches. Diameter, 1½ inches.

"The placing of two whistles simultaneously in the mouth probably suggested the twin or double whistle. . . . The next improvement was to construct the two instruments in the same block of wood either side by side or back to back. . . . In this case the wood is split twice, the middle section being hollowed out on either side, leaving a thin partition between the two tubes. In the Royal

1. Mallery. Bur. of Ethnol. 10th An. Rept. 1888–1889, p. 478. Wash. 1893.
Deans. Jour. Amer. Folk-lore. vol. 2, p. 255. 1889.

2. cf. Boas. Kwakiutl Indians. Smith. Inst. An. Rept. 1895, p. 414. Wash. 1897.
Hewitt. Totem. Bur. Amer. Ethnol. Bul. 30, pt. 2, p. 787 ff. Wash. 1910. Brit. Museum. Handbook of the Ethnog. Coll. p. 260

Group A
Whistles
Class I
Without
Finger-holes
Division a
Mouth-blown
Section 1
Stopped
Pipes

Ethnographical Museum, Berlin, there is shown a curious arrangement of the two whistles, which are placed one above the other with their embouchures on the same side of the block. A channel passing behind the upper whistle conveys the air to the lower." [1]

2595 STOPPED PIPE. (Double.) Model in three pieces, the middle section hollowed out on both sides, forming a partition between the two tubes. The three pieces bound together with split bark.
Length, 1 foot 1 inch. Diameter, 2¾ inches.

1941 STOPPED PIPE. (Double.) Quadrangular model, made in three pieces, similar to No. 2595, but held together with wooden pegs.
Length, 11¾ inches. Diameter, 1¾ inches.

2681 STOPPED PIPE. (Double.) Similar to No. 1941. The three sections cemented with resin and bound with fish-line.
Length, 9½ inches. Diameter, 2½ inches.
A similar specimen (No. 65,471) in the Peabody Museum, Harvard University, Cambridge, Mass.

3261 STOPPED PIPE. (Double.) Two quadrangular tubes, tapering to the mouthpiece, a whistle in each. The surface blackened, the sides originally cemented with resin, now bound with fish-line. The two tubes meet at the mouthpiece, where they are bound together. At the ends they are one inch apart.
Length, 10½ inches. Diameter, 1⅛ inches.

2783 STOPPED PIPE. (Double.) Two cylindrical tubes, the mouthpieces bound together back to back, the ends of the pipes spreading two inches apart at the closed ends. The section of the tubes cemented with resin and bound with split bark. Family: Skittagetan (Haida). Locality: Masset, Queen Charlotte Islands.
Length, 10¾ inches. Diameter, 1¾ inches.
A similar specimen (No. 65,469) in the Peabody Museum,

1. Galpin, F. W. The Whistles and Reed Instruments of the American Indians of the Northwest Coast. Proceed. of the Musical Assn. 29th Sess., Lond. 1902–1903, p. 119.

Harvard University, Cambridge, Mass. cf. also Kraus. Appunti sulla musica dei popoli nordica in Arch. per l'antro. e la Etn., vol. 37. p. 47. pl. I. No. 6, and Smith. Inst. An. Rept. 1888, pl. LXI, No. 325. Wash. 1890.

3267 STOPPED PIPE. (Double.) Conical model. Two separate whistles with flat backs and rounded fronts, tapering to the mouthpiece, a spur on each of the lower ends. The whistles are placed back to back, and bound together with animal sinew. At the ends they are one inch apart.
Length, 10 inches. Diameter, 2½ inches.

2251 STOPPED PIPE. (Double.) Flat model with rounded back. A single block hollowed out in two grooves, a thin partition in the center.
Length, 8¼ inches. Diameter, 1⅜ inches.

2600 STOPPED PIPE. (Double.) A cylindrical tube of wood, split lengthwise and grooved for an air passage, is divided into two sections by a small block in the center, which leaves a small opening for the air to pass to the whistle in the lower part of the tube.
Length, 8¼ inches. Diameter, ¾ inch.

2780 STOPPED PIPE. (Double.) Two small tusks of walrus ivory squared at the ends and plugged with wood. A whistle in each, the two placed side by side and bound together with cord.
Length, 3⅜ inches. Diameter, 1⅜ inches.

2599 STOPPED PIPE. (Double.) Similar to No. 2783. Two conical wooden whistles, placed back to back, and bound together with split bark.
Length, 6¼ inches. Diameter, 1¾ inches.

3266 STOPPED PIPE. (Triple.) Three slightly conical tubes of wood, tapering to the mouthpiece where they are bound together with cord.
Length, 11⅜ inches. Diameter, 1¾ inches.

2684 STOPPED PIPE. (Triple.) Flat model, made in three sections, the central block having on one side a single groove and on the other side two. The pieces cemented

Group A
Whistles
Class I
Without
Finger-holes
Division a
Mouth-blown
Section 1
Stopped
Pipes

together and bound with cord, a strip of muslin pasted around the edges.
Length, 5 3/8 inches. Width, 2 3/4 inches.

2597 STOPPED PIPE. (Quadruple.) Quadrangular model with rounded edges. Made in five sections, the central block grooved on four sides. The outside pieces cemented together; originally bound around the center with split bark (now missing). Surface color red.
Length, 5 1/2 inches. Diameter, 1 3/8 inches.

2678 STOPPED PIPE. (Quadruple.) Similar in construction to No. 2684.
Length, 11 1/4 inches. Width, 1 5/8 inches.

2682 STOPPED PIPE. (Sextuple.) A central block of wood, conical form, grooved on six sides; to this central piece the six outside pieces are cemented with resin and the whole bound with cord. The whistles, arranged in pairs, are placed back to back, the openings being respectively two, three, and four inches from the mouthpiece.
Length, 9 1/2 inches. Diameter, 3 3/8 inches.

The Berlin collection[1] has a quintuple whistle similar to the above, but in the form of a cylindrical roller.

"In these compound whistles, the notes can be sounded separately if desired. In the Oxford Museum there is a triple whistle from Albert Bay, formed of three separate instruments bound together with twisted cord, a small whistle being placed on either side of the tapering mouthpiece of a larger one. . . . In these whistles the block of wood is split first of all on two opposite faces and then on the other two. On these narrower faces the two smaller whistles are placed. In the Berlin collection there is a quadruple whistle with rounded base terminated by a short handle. It is of Kwakiutl make."[2]

Half-stopped Pipes. In whistles of this form the bottom block of the stopped pipe is pierced with a cylindrical hole by means of which the character of the tone is obtained.

1. cf. Boas. Kwakiutl Indians. Smith. Inst. An. Rept. 1895, p. 445, fig. 71. Wash. 1897.

2. Galpin. The Whistles and Reed Instruments of the American Indians of the Northwest Coast. Proceed. of the Musical Assn. 29th Sess., Lond. 1902–1903, p. 120.

It is interesting to find that the charm of the half-stopped pipe,—the Rohr flute of the organ,—has not been lost on the Indians, for in this is found the principle which for three centuries and a half has occupied a place in European instruments. Whether the single hole was intended to be stopped by the finger in order to vary the note, it is hard to say. It seems probable that it arose from the natural ingenuity of the Indian whistle-makers, and may have suggested the whistles with true finger-holes.[1]

Section 2 Half-stopped Pipes

622 HALF-STOPPED PIPE. Pear-shaped with a single hole pierced on one side of the lower end which terminates in a small knob. Family: Skittagetan (Haida). Locality: Queen Charlotte Islands.

Length, 1 foot 1¼ inches. Diameter, 4¼ inches.

cf. Smith. Inst. An. Rept. 1888, pl. LXII., No. 330. Wash. 1890.

Section 3 Open pipes

OPEN PIPES. The open pipe is of the same construction as the stopped pipe except that the end block is cut away. It does not seem to have been so generally used, and this type is only represented in the Crosby Brown Collection under Class II, see p. 77.

Group A Whistles Class I Without Finger-holes Division b Mechanically blown

WHISTLES MECHANICALLY BLOWN. "The sounding of the whistle by means of a compressible bag is undoubtedly of great antiquity, and led up to the more recent use of the bellows for the same purpose."

Commander Dawson[2] describes a whistle of the type found by him among the Haida Indians of Queen Charlotte Islands, as follows: "A peculiar and very ingenious speaking doll was obtained at Skidegate. This did not seem to be a mere toy, but was looked upon as a thing of worth, and had previously been used, in all probability, as an impressive mystery. It consisted of a small wooden head three and a half inches long by two and a half inches wide and two inches deep from back to front, composed of two pieces of wood hollowed out till quite thin, and the front one carved to represent a grotesque face with a large, round, open mouth with projecting lips. The two pieces had then been neatly joined, a narrow slit only remaining within the neck and serving for the passage of air, which then, impinging on a sharp edge at the back of the cavity representing the mouth, makes a hollow whistling sound. To the neck is tied the orifice of a bladder, which is filled

1. cf. Galpin. The Whistles and Reed Instruments of the American Indians of the Northwest Coast. Proceed. of the Musical Assn. 29th Sess., Lond. 1902–1903, p. 120 ff.

2. Geol. Survey of Canada, Report of Progress, 1878–79, p. 140–B.

Group A Whistles Class I Without Finger-holes Division b Mechanically blown

with some loose elastic substance, probably coarse grass or bark. On squeezing the bladder sharply in the hand a note is produced, and on relaxing the pressure the air runs back silently, enabling the sound to be made as frequently as desired."

According to Dr. Boas, these whistles are all carved or painted to represent a corpse either with hollow orbits or closed eyes; some of them are attached to bellows. They are carried under the arm, hidden by the blanket and are thus sounded without being visible to the spectators.

Section 1 Stopped Pipes[1]

2884 STOPPED PIPE. *Sapakwilla* or *Oolalla*, Mountain Demon's Call. Wood, carved in the form of a head, the block split in half and the two sections hollowed out and neatly joined. On one side a human face, an opening in place of the nose, a hole in the forehead. The bladder by which the whistle is sounded is missing. Reproduction of No. 89,062 from the Skittagetan (Haida) Indians, Queen Charlotte Islands, U. S. Nat. Museum Coll.

Length, 9 inches. Diameter, 1 foot 2 inches.

The hole in the forehead of the original is roughly made and appears to be either an accidental breakage or cut for the purpose of varying the note. With the hole closed the whistle sounds B flat below tenor C; when open, a sharp E flat above tenor C.

The British Museum has a similar whistle in the Troup Collection in which the sound issues from the mouth of the figure instead of the nostrils.

cf. Galpin. Whistles and Reed Instruments, pl. II, 8A. Boas. The Social Organization and Secret Societies of the Kwakiutl Indians. Smith. Inst. An. Rept. 1895, p. 654. Wash. 1897. Also Smith. Inst. An. Rept. 1888. pl. LXII. Wash. 1890.

2891 STOPPED PIPE, with bellows. A slightly conical tube of wood split and hollowed out with a whistle in one side sounded by a bellows attached to the whistle end. The tube is bound with eel grass and the surface decorated with totemic emblems in red and black. Family: Skittagetan (Haida). Locality: Queen Charlotte Islands.

Length of whistle, 1 foot. Diameter, 3½ inches.

Length of bellows, 10¾ inches.. Diameter of bellows, 6¼ inches.

1. Sections 2 and 3 not represented.

Facsimile of a whistle used by the Haida Chief Yea-da-horthy, made by a Haida Indian, Queen Charlotte Islands, 1902.

1401 STOPPED PIPE, with bellows. Wooden whistle made in two sections, the back rounded, the front flat, slightly pear-shaped, with bindings of eel-grass and cord of twisted sinew. The wooden bellows are of oblong shape, covered with buckskin.
Length of bellows, 6 inches. Width, 3 inches.
Length of whistle, 5½ inches. Width, 3 inches.

1435 STOPPED PIPE, with bladder attachment. A cylindrical tube of wood, split and hollowed out, a whistle in one side, the two sections bound together with animal sinew. A knob at the lower end, at the whistle end a pig's bladder. Tribe: Hamatsa (Kwakiutl). Family: Wakashan. Locality: British Columbia.
Length of tube, 7 inches. Length of bladder, 6 inches.
When in use, the bladder is stuffed with moss, or preferably coarse hair, which causes it to expand when pressure is removed.
A similar specimen in the U. S. Nat. Museum, No. 89,069.

1436 STOPPED PIPE (Double), with bellows. Dance whistle. Cut from a small block of wood split and one side hollowed out in two grooves side by side. The two pieces then bound together with fish-line. To the whistle end a wooden bellows is attached. Family: Skittagetan (Haida). Locality: Queen Charlotte Islands.
Length, 10½ inches. Width, 4¾ inches.
A similar specimen in the U. S. Nat. Museum, No. 89,064.
cf. Smith. Inst. An. Rept. 1888. pl. LXII, No. 329. Wash. 1890.

2779 STOPPED PIPE (Double), with bellows. Two oblong pieces of wood with rounded ends joined by a strip of leather fastened to the edge of each with tacks. On one board two leather straps; on the other, two whistles formed by a groove cut in its surface over which is cemented a narrow strip of wood with an opening at each end.
Length, 7¼ inches. Width, 3 inches.

WHISTLES WITH FINGER-HOLES. The introduction of finger-holes in these primitive whistles is doubtless of recent origin, the Indian

Group A Whistles Class II With Finger-holes Division a Mouth-blown

having little or no idea of instrumental music. Two examples in the British Museum, considered to be genuinely Indian, were received in 1892 from Queen Charlotte Islands. These pipes are of the same general form as No. 3258, there being only a slight difference in the length.

Section 1 Stopped Pipes

3258 STOPPED PIPE. Cylindrical tube of wood with flat front and rounded back. Bound with spruce root. Two finger-holes.
Length, 8¾ inches. Diameter, 1¼ inches.
cf. Galpin. Whistles and Reed Instruments. pl. II, 9A. Also Handbook of the Brit. Museum Ethnog. Coll. p. 266, fig. 247.

3263 STOPPED PIPE. Wood. A flat, narrow model with a projecting knob on the lower end, the two sides bound together with spruce root and strips of sinew. One finger-hole.
Length, 1 foot. Width, 2½ inches.

3264 STOPPED PIPE. A cylindrical tube of wood with a flat front. Three finger-holes. The two sides bound together with fish-line.
Length, 12½ inches. Width, 1⅞ inches.

3268 STOPPED PIPE. Similar to No. 3264. Bound with spruce root. Four finger-holes.
Length, 1 foot, 2 inches. Width, 2⅛ inches.

*2680 STOPPED PIPE. Slightly conical tube of wood, with bindings of spruce root. Family: Skittagetan (Haida.) Locality: Queen Charlotte Islands.
Length, 10¼ inches.

Section 2 Half-stopped Pipes

3262 HALF-STOPPED PIPE. Wood, in the form of a flattened cone, split lengthwise, the two sides bound together with spruce root. One finger-hole.
Length, 9¼ inches. Diameter, 2 inches.

1942 HALF-STOPPED PIPE. (Triple.) An octagonal piece of wood resembling a turtle shell, the center hollowed out leaving a block at each end in which there are three

* This instrument has been placed with Class II of the kindred instruments of the Historical Groups.

WHISTLES. INDIANS OF THE NORTHWEST COAST
PP. 74–76

grooves. Over this is placed a thin sheet of iron pierced with three holes near one end.
Length, 5¾ inches. Width, 4¼ inches.

2235 OPEN PIPE. A cylindrical tube of slate inlaid with ivory, the surface carved with totemic emblems and three figures in high relief; below the mouthpiece a raven and two grotesque figures. There are six finger-holes. Family: probably Skittagetan. Locality: Queen Charlotte Islands. Length, 1 foot 10½ inches. Diameter, 1¼ inches.

Section 3 Open Pipes

DOUBLE-BEATING REEDS. The double-beating reed type is placed first, "not only because this principle appears to have been longer in use than the others, but because it forms the starting-point of two of the three other sections of this group."

Group B Reed Instruments Class I Without Finger-holes Division a Mouth-blown Section 1 Double-beating Reeds

"The Indian double-reed is not formed of natural reed or cane as among the people of other continents, but of wood, generally red cedar or spruce. The wood is split in half lengthwise, the lower part of each half is hollowed out, the hollow gradually diminishing in depth and size towards the upper end of the block. The two halves are then bound together with spruce roots, and the upper part is thinned down on either side until a flat tongue-shaped end is left, split in half by the previous cleavage of the wood. The two thin pieces, which stand slightly apart, vibrate and beat upon each other when the air is impelled through them. The outline of the reed varies from the parallel sides and rounded top which we are accustomed to see in the modern clarinet reed to an elongated form with tapering sides and a blunt point, the exact reverse in fact of the ordinary double-beating reed as used for the bassoon."

LIPPED FORM. This is the simplest form of the double reed, "so-called because the reed can be controlled by the lips of the performer," as in No. 1939. "In probably the more ancient specimens the reed is made in one piece with the tube and is inseparable from it. Sometimes, however, the reed is inserted into a cylindrical or slightly conical tube made in the same way as the whistle tubes and bound with roots or bark," as in No. 681.

Section 1 Double-beating Reeds 1. Lipped

1939 REED PIPE. Cut from a block of wood split lengthwise and hollowed out in the form of a flattened cone, the two pieces bound together with spruce root, the edges originally sealed with resin.
Length, 1 foot 5½ inches. Width, 3½ inches.
cf. Smith. Inst. An. Rept. 1888, pl. LXI, No. 324. Wash. 1890.

Group B Reed Instruments Class I Without Finger-holes Division a Mouth-blown Section 1 Double-beating Reeds i. Lipped

3299 REED PIPE. Similar to No. 1939. The two sides tapering to the mouthpiece are left free to vibrate and operate as a double-beating reed.
Length, 1 foot 3 inches. Width, 1¾ inches.

681 REED PIPE. A slightly conical tube formed of two pieces of wood hollowed out and bound together. Original binding missing. A double reed of wood inserted in the mouthpiece.
Length, 1 foot. Diameter, 2 inches.

2245 REED PIPE. Similar to No. 3299, but in miniature.
Length, 3¾ inches. Width, 1¾ inches.

2237 REED PIPE. Similar to No. 2245.
Length, 1 inch. Width, $\frac{5}{16}$ inch.
As stated by Dawson[1] these small forms are held in the mouth of the performer and produce a peculiar noise supposed to indicate a species of possession in an excited dancer.

694 REED PIPE. Similar to No. 681, but conical. Family: probably Skittagetan. Locality: Queen Charlotte Islands.
Length, 1 foot 7 inches. Diameter, 2 inches.

*1424 REED PIPE. Similar to No. 694.
Length, 7 inches. Diameter, 2 inches.

Section 1 Double-beating Reeds ii. Covered

COVERED FORM. In these "the vibrating tongues are placed within the tube out of reach of the lips, sometimes just inside the upper end, more often in the middle or at the lower end. The instrument is then sounded by a strong blast blown by the performer through the tube. When the reed is placed in the middle of the instrument, the outline often resembles that of an hour-glass, the vibrator being inserted at the waist and kept in place with

1. cf. Dawson. Geol. Survey of Canada. Rept. of Progress, 1878–1879, p. 139B.
Boas. The Social Organization and the Secret Societies of the Kwakiutl Indians. Smith. Inst. An. Rept. 1895, p. 446. Wash. 1897.

* This instrument has been placed with Class II of the kindred instruments of the Historical Groups.

REED INSTRUMENTS. INDIANS OF THE NORTHWEST COAST
PP. 78–81, 83–85

Group B Reed Instruments Class I Without Finger-holes Division a Mouth-blown Section 1 Double-beating Reeds ii. Covered

asphaltum or resin," as in No. 2256. No. 2254 "in section shows the position and shape of a covered reed used by the Tsimshian Indians of Fort Simpson, British Columbia. The mention of a covered reed instrument reminds us of the medieval krummhorn and the present bagpipe chanter reed, but the cover of the reed is not removable. As may be imagined, the tone of the wooden reed is marked by a roughness and power which partake more of the timbre of the metal vibrators of the foghorn than the delicacy of the true orchestral reed.

"The same desire for a concord or discord of sound which led the Indians to produce the double, triple, quadruple, quintuple, and even sextuple whistles, also suggested the association of two, three, or four double-beating reeds in one air chamber. The reeds are usually small and placed at the lower end, which is flattened for the purpose, while the upper part of the tube is tapered for the convenience of blowing" as in No. 1943, which is probably of Skittagetan origin.[1]

2256 REED PIPE. Wood, carved in the form of an hourglass, the upper part tapering to the mouthpiece. The block is split lengthwise, hollowed out, and the vibrating wooden reed placed in the center or "waist" of the two sections which enclose it. The bindings are of spruce root.
Length, 1 foot 7 inches. Diameter, 3⅜ inches.
cf. Kraus. Appunti sulla musica dei popoli nordica, in Arch. per l'antro. e la Etn., vol. 37, p. 47, pl. I, No. 7. 1907.

2594 REED PIPE. Similar to No. 2256. Two holes in each side of the bell near the lower edge.
Length, 1 foot 5 inches. Diameter, 4 inches.

1940 REED PIPE. Similar to No. 2256. Family: probably Skittagetan. Locality: Queen Charlotte Islands.
Length, 1 foot 2⅝ inches. Diameter, 3⅛ inches.

2254 REED PIPE. Similar to No. 2256. The surface decorated with totemic emblems in black.
Length, 1 foot. Diameter, 2¾ inches.
Open to show enclosed reed. cf. Smith. Inst. An. Rept. 1888. pl. LXI, No. 327. Wash. 1890.

1. Galpin. The Whistles and Reed Instruments of the American Indians of the Northwest Coast. Proceed. of the Musical Assn. 29th Sess., Lond., 1902–1903, p. 124 ff.

Group B Reed Instruments Class I Without Finger-holes Division a Mouth-blown Section 1 Double-beating Reeds ii. Covered

2255 REED PIPE. Similar to No. 2253, but slightly conical.
Length, 1 foot 4 inches. Diameter, 2½ inches.

2253 REED PIPE. A cylindrical tube formed of two pieces of wood hollowed out and bound together with spruce root. A double wooden reed within the mouthpiece.
Length, 12½ inches. Diameter, 1¾ inches.

2239 REED PIPE. Two small flat pieces of wood hollowed out and bound together, enclosing a double reed. Family: probably Skittagetan. Locality: Queen Charlotte Islands.
Length, 1¾ inches. Width, 1¼ inches.

1943 REED PIPE. (Quadruple.) Two pieces of wood in the form of a flattened cone hollowed out and split lengthwise; in four grooves at the lower edge are fastened four double reeds. Family: probably Skittagetan. Locality: Queen Charlotte Islands.
Length, 7½ inches. Width, 2 inches.
Opened to show enclosed reeds.

679 REED PIPE. (Triple.) Similar to No. 1943, enclosing three double reeds. Family: Skittagetan. Locality: Queen Charlotte Islands.
Length, 6¾ inches. Width, 2¾ inches.

Group B Reed Instruments Class I Without Finger-holes Division a Mouth-blown Section 2 Single-beating Reeds

SINGLE-BEATING REEDS. Doubtless the simple form of the single-beating reed is "only a late arrival amongst the Indians of the Northwest Coast. It consists of a small hollow bone,—an eagle bone,—with its end cut down on one side to form a 'lay' as in the modern clarinet mouthpiece, and a slip of wood bound on with spruce root or sinew to form the reed which is controlled by the lips," as in No. 2241. "In other forms the reeds are of metal. Although the Indians have known the use of copper for centuries and have found it easily reduced to thin plates by hammering, the reeds of these instruments are of a metal introduced by Europeans. It may be that an older form exists with both body and reed of wood, but of this primitive form no specimens have as yet appeared." [1]

1. Galpin, F. W. The Whistles and Reed Instruments of the American Indians of the Northwest Coast. Proceed. of the Musical Assn. 29th Sess., Lond. 1902–1903, p. 125.

2241 REED PIPE.[1] Made from a small hollow bone, one end cut off at an angle, and a slip of wood forming a beating reed bound on with a narrow strip of split bark. Tribe: Makah or Aht. Family: Wakashan (Nootka). Locality: Vancouver Island.
Length, 3½ inches. Diameter, ½ inch. Reproduction. Original in the National Museum, Washington, D. C.

Section 2 Single-beating Reeds 1. Lipped

3260 REED PIPE. Twin single-beating reed. A cylindrical tube of wood, made from a block split and hollowed out. At one end of each half the wood is cut down to a narrow, flat tongue, which rests against a central partition $\frac{1}{16}$ of an inch thick; this partition extends only the length of the reed mouthpiece, below which it is cut away to the thickness of the tube forming a narrow strip between the edges of the two sides. On one side of the tube a large opening; the whole bound together with spruce root. Family: probably Skittagetan. Locality: Queen Charlotte Islands.
Length, 10½ inches. Width, 1¾ inches.

2247 REED PIPE. Twin single-beating reed. Two thin slips of wood bound at the thicker end against a central partition. Similar to mouthpiece of No. 3260. Family: probably Skittagetan. Locality: Queen Charlotte Islands.
Length, 2¾ inches. Width, 1½ inches.

2686 REED PIPE. A narrow block of wood and one of horn hollowed out and bound together with cord. A small metal reed placed within the mouthpiece. Family: probably Skittagetan. Locality: Queen Charlotte Islands.
Length, 4 inches. Width, 1 inch.

Section 2 Single-beating Reeds ii. Covered

Group B Reed Instruments Class I Without Finger-holes Division a Mouth-blown Section 3 Retreating Reeds

RETREATING REEDS.[2] Mr. Galpin is of the opinion that "the vibrating principle in this section has apparently been derived, at least in one form, from the double reeds and seems best described by the term 'retreating' reed, a name also applied by Mr. Hope Jones to certain forms of organ reeds or diaphones invented by him. . . . It is the reverse, so to speak, of the ordinary beating reed, in which

1. A duplicate of this reproduction (No. 2963) has been placed with the reed group of kindred instruments.

2. Mr. E. H. Hawley, of the U. S. Nat. Museum, was the first to classify this form of "whistle" as a reed pipe, and it was called by him the *inverted double reed*.

Group B Reed Instruments Class I Without Finger-holes Division a Mouth-blown Section 3 Retreating Reeds

the normal position of the vibrator is at a little distance from the lay or other half of the reed, so that when the breath is forced through the reed the aperture is alternately closed and opened. The retreating reed, however, is in its normal condition closed, the two halves being in contact. When the air is forced through the reed (from the opposite end to that used in the ordinary beating reed) the halves open and close alternately. The primary action of the ordinary reed is beating or closing; the primary action of the closed reed is retreating or opening. This principle assumes two general forms, terminal and lateral." [1]

1. Terminal form.

TERMINAL RETREATING REEDS. In No. 695 the affinity with the ordinary double-beating reed is very evident. Mr. E. H. Hawley describes a specimen from the Bellabella (Salishan) Indians in the National Museum, Washington, as follows: "It is a bit of cedar shaped like an elongated Indian club flattened at the thick end. The wood has been split and the larger part or outer ends excavated to form two spoon-shaped sections. The smaller or inner ends have only a little channel cut in them for an air passage; the two halves are then lashed together with split spruce root at the inner end at the point where the widening out begins; the other ends are left free. Where the breath is forced in at the mouthpiece it causes the free ends both to open and close producing a harsh sound."

In the U. S. Nat. Museum, Washington, there are also examples of this form from the Skidegate Indians of Queen Charlotte Islands. In the Pitt-Rivers Museum (Oxford) there is a very perfect Tlingit specimen, about ten inches long, from the Stickeen River, the outside of the vibrating portion in this example being broadly octagonal instead of oval. Passing to other continents, an example of this terminal retreating reed appears from Fez, in Morocco, where it is called the *lira*.[2] This is a piece of reed, one end being open, the other closed by the natural knot. This, however, has been split longitudinally, and by blowing into the open end the two halves vibrate as the reeds before mentioned. English country boys construct a similar terminal reed out of the hollow stem of the meadow rush, one end, closed by the natural knot, being split as in the African specimen.

695 REED PIPE. *K'oak'omolakula.* A stick of cedar cut in the form of a small club, split and the larger ends hollowed

1. Galpin, F. W. The Whistles and Reed Instruments of the American Indians of the Northwest Coast. Proceed. of the Musical Assn. 29th Sess., Lond. 1902–1903, p. 127 ff.

2. cf. (Africa) No. 2651.

out in spoon-shaped grooves which narrow to a small air-channel at the mouthpiece. The two pieces fit closely together and are bound at the small end and near the center with cord, the larger ends being left free to vibrate. Family: Athapascan. Locality: Fort Simpson, British Columbia.
Length, 1 foot 3 inches.

Collected by James G. Swan, U. S. Nat. Museum.

Mr. E. Hawley of the U. S. Nat. Museum in experimenting with a similar pipe (U. S. N. M. Coll. No. 88,873) found that four or five tones could be produced by compressing the sides of the pipe at different points between the bindings, the pitch being varied as the vibrating length diminished.

cf. Amer. Anthrop. New Ser. vol. 1, p. 587. 1889.

621 REED PIPE with Whistle. Two tubes, one a stopped pipe, the other a retreating reed, bound together at the mouthpiece with fibre, the lower ends spreading two inches apart. Family: probably Koluschan. Locality: northwest coast of British Columbia.
Length, 12½ inches. Diameter, 1¾ inches.

618 REED PIPE. A block of wood cut in the form of a bulb with a long straight handle, split in half and the interior hollowed out. The mouthpiece end bound with spruce root; at the lower, bulbous part, the two sides are left free to vibrate as a reed. Family: probably Koluschan. Locality: northwest coast of British Columbia.
Length, 1 foot 1 inch. Diameter, 4 inches.

3259 REED PIPE. A stick of wood in the form of a small club with a rounded end, split through the center and bound with spruce root below the mouthpiece; the lower ends left free to vibrate.
Length, 10¾ inches.

3257 REED PIPE. A stick of cedar shaped like a small wing. Similar to No. 3259.
Length, 6¾ inches. Width, ½ inch.

Twin Terminal Retreating Reeds. As with other reeds, so with these, the Indians have endeavored to produce an accord, and in No. 2619 we have the twin terminal retreating reed as constructed by the Skidegate Indians. The mouthpiece or blow-hole is in the mid-

Group B Reed Instruments Class I Without Finger-holes Division a Mouth-blown Section 3 Retreating Reeds

dle or waist, and as the hole is cut right through, it is necessary to close the opposite opening with the finger; then when the air is forced in, the two ends "retreat" and form the twin vibrators.[1]

1. a. Twin terminal form

2593 REED PIPE. A block of wood broader at the center than at the ends, split in half and hollowed out, the two sections bound together at the ends with spruce root. In the center of one side where the two pieces join is the breath-hole. At each end is a double wooden reed set in vibration when the breath enters the interior chamber from the hole on the side. Family: probably Skittagetan. Locality: Queen Charlotte Islands.
Length, 12½ inches. Width, 2¼ inches.

2619 REED PIPE. A block of wood cut in the form of a dumb-bell with elongated instead of round ends, split and hollowed out, the two sides bound together near the center, the ends left free to vibrate. The breath-hole at the center. Family: Skittagetan. Locality: Queen Charlotte Islands.
Length, 10 inches. Width, 1¾ inches.
Reproduction of No. 89,057, U. S. Nat. Museum Coll.
cf. Smith. Inst. An. Rept. 1888, pl. LVII, No. 299. Wash. 1890.

ii. Lateral form

LATERAL RETREATING REEDS. This is "either an attempted improvement on the terminal form or has come from the simple tube which is made up, as before mentioned, of two excavated halves bound together. If the lower end of one of these tubes be stopped and the air forced into the open end, the two sides, if not too thick, will fly apart at the split and produce the lateral retreating reed." In No. 693, which represents the form used by the Skidegates of Queen Charlotte Islands, "the walls are very thin and vibrate for the greater part of their length. By pressing the body of the instrument between the forefinger and thumb the vibrating length can be shortened and a note of higher pitch obtained.

"The lateral retreating reed is probably more widely distributed than the terminal form. Mr. Balfour of the Pitt-Rivers Museum states that a very similar sound-producer is made by the boys in Oxfordshire, England, and most likely in many other parts of England. The pliant, hollow stem of a river reed is cut off just below the knot and again a few inches above to form an open end. An

1. When applied to modern wind instruments, such as the oboe, clarinet, and ophecleide, this reed fails to produce a musical note.—F. W. Galpin.

incision is then made with a knife in the side of the tube, and when the breath is blown into the open end the edges of the incision vibrate as in the lateral reed.

"The Ainos of Japan also have a similar vibrator in their *ippaki-ni* or deer call, which consists of a piece of skin stretched across a flat piece of wood and fastened to it on three sides by sinew. A hole is bored in the wood through a short mouthpiece on one side, and opens out beneath the skin. When the air is forced through the hole the skin rises and falls, or 'retreats' and 'beats' at its free edge on the flat surface.

"As with the terminal reed, so with this, the Indians have constructed twin vibrators, a form used by the Massets and made out of one block of wood split in half, hollowed out and bound together again." [1]

Section 3 Retreating Reeds ii. Lateral form [2]

2257 REED PIPE. Two thin pieces of wood hollowed out and bound together at the ends with split fibre, the tube open at both ends. Family: probably Skittagetan. Locality: Queen Charlotte Islands.
Length, 1 foot 11¾ inches. Width, 1½ inches.

692 REED PIPE. A flattened and slightly conical tube made from two pieces of wood hollowed out and bound together at the ends with spruce root. The ends open. Family: probably Skittagetan. Locality: Queen Charlotte Islands.
Length, 1 foot 11 inches.
A similar specimen in the U. S. Nat. Museum, No. 89,067.

693 REED PIPE. Similar to No. 692.
Length, 1 foot 5½ inches. Width, 1¾ inches.
Collected by J. G. Swan, U. S. Nat. Museum.

2602 REED PIPE. A tube of wood formed from two pieces hollowed out and bound together. The mouthpiece end of the tube is round, the lower part quadrangular. Family: probably Skittagetan. Locality: Queen Charlotte Islands.
Length, 9½ inches. Diameter, ⅞ inch.

1. Galpin, F. W. The Whistles and Reed Instruments of the American Indians of the Northwest Coast. Proceed. of the Musical Assn. 29th Sess., Lond. 1902–1903, p. 129.

2. Twin lateral form: no example shown.

Group B Reed Instruments
Class I Without Finger-holes
Division a Mouth-blown
Section 3 Retreating Reeds
ii. Lateral form

680 REED PIPE. Two strips of wood hollowed out and bound together with strips of bark forming a flat tube with the lower end closed. Family: probably Skittagetan. Locality: Queen Charlotte Islands.
Length, 8 inches. Width, 7/8 inch.

572 REED PIPE. A cylindrical tube formed from two pieces of wood hollowed out and bound together. The lower end closed. Tribe: Masset. Family: Skittagetan. Locality: Queen Charlotte Islands.
Length, 8 1/2 inches. Diameter, 5/8 inch.
Collected by J. G. Swan of the U. S. Nat. Museum.

Section 4 Ribbon Reeds

RIBBON REEDS. "This principle is well known from its use in toy instruments. . . . A strip of thin membrane—in the case of Indian specimens an inner layer of bark from the red cedar—is tightly fixed at each end and stretched across a narrow air passage. On blowing through the air passage the edge of the thin membrane vibrates in the same way as children will extract noise from a blade of grass or lime leaf held between the middle and lower joints of the thumb. . . ."

In the United States National Museum, Washington, "an elaborate Tsimshian form occurs, oddly enough described in the report as a trumpet. It is made in six pieces, and when they are bound together they form five narrow air-passages. A continuous piece of thin fabric is stretched across each passage, the whole instrument thus containing five vibrators. Unfortunately the musical effect is not equal to the ability and ingenuity of construction."[1]

In the eagle chant of the Navaho, a bone whistle (*beet'sos* or *atsa'ʔol*), fitted with a ribbon reed, is used to imitate the cry of an eagle. It is made of the leg bone of a jack-rabbit killed by an eagle. This is split and the marrow removed; a piece of the inner ear of the jack-rabbit is laid between the two pieces of bone, which are then bound together with sinew.[2]

i. Simple form

2248 REED PIPE.[3] Two small square pieces of wood, one perforated, the two bound together. On the inside a strip of bark stretched across the air passage. Reproduction.

1. Galpin. Whistles and Reed Instruments, p. 129 ff.

2. cf. Ethnol. Dict. of the Navaho Language, p. 511, 1910.

3. A duplicate of this reproduction (No. 2964) has been placed with the reed group of kindred instruments.

Original in the U. S. Nat. Museum Coll. No. 20,687. Tribe: Kwakiutl (Bellabella). Family: Wakashan. Locality: Fort Simpson, Canada.
Length, 3 inches. Diameter, 1½ inches.

2238 REED PIPE. Similar to No. 2236.
Length, 1½ inches. Diameter, ⅞ inches.
A similar specimen in the U. S. Nat. Museum, No. 2149, is made of walrus ivory.

2236 REED PIPE. Similar to No. 3396.
Length, ⅞ inches. Diameter, ⅜ inches.

Group B Reed Instruments Class I Without Finger-holes Division b Mechanically blown Section 4 Ribbon Reeds

REED INSTRUMENTS MECHANICALLY BLOWN. "The sounding of the reed instruments by mechanical means naturally followed the application of the same idea to the whistles. . . . Owing to the strong nature of the wooden reed, the ordinary compressible bladder filled with grass . . . would fail to give the necessary wind pressure. Therefore, examples of mechanically blown reeds are rare."[1] This type is represented in the Crosby Brown Collection by a single example. In the U. S. Nat. Museum, Washington, there is a similar specimen fitted with a double reed, the bellows painted with totemic designs; but, like No. 3396, it is of modern construction.

3396 REED PIPE. A small block of wood, split and hollowed out, a thin strip of bark placed between the two sides, which are bound together with spruce root. To this is attached a large bellows decorated with a totemic emblem (the wolf?) in color. Family: probably Skittagetan. Locality: Queen Charlotte Islands.
Length, 3¾ inches. Width, 1¾ inches.

CLASS III VIBRATING MEMBRANES

The most primitive form of drum found among the Indian tribes of the Northwest is that described by Sproat,[2] a bear skin

1. Galpin. The Whistles and Reed Instruments of the American Indians of the Northwest Coast. Proceed. of the Musical Assn. 29th Sess., Lond. 1902–1903, p. 130.

2. cf. Sproat. Scenes and Studies of Native Life, p. 170. The rawhide drum is also found among the tribes of the United States (see note to No.

Class III Vibrating Membranes

stretched over the ground upon which the native marked the rhythm of the dance or beat an accompaniment to the incantations of the sorcerer. Another primitive form is the *makkortaa* employed by the Angakok in his medicine rites. This is described by Thalbitzer as "A round flat piece of skin from 5 to 5½ cm. in diameter, which is held tightly in the hollow of the hand while it is struck or rapped on with a carved wooden stick with the other hand. By the aid of this little instrument the Angakok produces a loud rhythmic knocking as a preliminary to his meeting with the spirits below the ground." The drum in most common use is the tambourine type, that of the Eskimo being obovate or fan-shaped with a short bone handle; the frame is of willow, a flat strip about an inch wide bent until the two ends meet, fastened to a strip of walrus ivory on the inside of the hoop and secured to the frame by neat stitches of black whale-bone. In some examples this crude handicraft has given way to modern methods, the whale-bone stitching being replaced by ordinary tacks and twine. The membrane used in the older specimens of the coast tribes is usually the peritoneum of a seal or the skin of a whale's liver,[2] and sometimes thin untanned deerskin. It is stretched over the outer edge and is fastened in a groove of the frame with a cord of sinew or twine.

In other countries the tambourine type of drum, or what is termed "hand drum" is struck with the hand; here, however, the native employs a baton of walrus ivory or a long slender wand of wood, and holding the membrane away from him, strikes alternately on the sides of the wooden rim as he rotates the drum to meet the stroke. The note thus produced is resonant and more or less musical, but its pitch depends entirely upon accident, as there appears

2675, p. 131) and as well in Australia, from which point a correspondent writes that the monotonous chant of the natives is accompanied by the *nulla nulla*, two clubs which the men strike together to mark the time, while the women "beat a possum rug with the palms of their hands."
James Mooney while investigating the Ghost Dance among the Kiowa, one of the linguistic families of the southwest, saw one of these primitive drums which he states was formerly used as an accompaniment to a tribal dance held prior to the departure of a war party. He describes it as a large rawhide, held about waist high by as many performers, chiefly women, as could grasp the edge of it with one hand, while they beat it with a stick held in the other. While thus drumming, they circled slowly around, rawhide and all, keeping up one of those weird, high-pitched dance songs, without meaning, so common among the prairie tribes. The occasion was a grand night gathering of Kiowa, Comanche, and Apache. Am. Anth., vol. 5, p. 282. 1892.

1. cf. Thalbitzer. The Heathen Priests of East Greenland (Angatut), in Congrès Internat. des Américanistes, Wien, 1908, p. 458.

2. The intestines of the white whale (Beluga) are also used by the Eskimo. E. H. Hawley. U. S. Nat. Museum.

o be no system of tuning. This is also the case with the native inging, as each performer selects a pitch that suits his fancy, usually n a minor key. The Eskimo have regular festivals at which the rum is used in accompanying the voices and it is their custom to neet in a singing-house where their monotonous chants do honor o the supernatural being in whose abode the gathering is held.[1] One of these gatherings is described by Franz Boas in his paper on he Central Eskimo in the neighborhood of Cumberland Sound and Davis Strait, as follows: "The Eskimo have some very interesting easts, most of which are closely connected with their religious otions. In summer feasts are celebrated in the open air, but in vinter a house called *qaggi* or, as we call it, singing-house, is built or that purpose. The house which is used by the eastern tribes s built of snow in the shape of a large dome about fifteen feet in eight and twenty feet in diameter, without any lining. In the enter there is a snow pillar, five feet high, on which the lamps tand. When the inhabitants of a village assemble in this building or singing and dancing the married women stand in a row next the vall. The unmarried women form a circle inside the former, while he men sit in the innermost row. The children stand in two roups, one at each side of the door. When the feast begins, a man akes up the drum (*kilaut*), . . . steps into the open space next the oor, and begins singing and dancing." [2]

With these people the drum is used not only as a musical instru- nent, but, as in Africa, it is employed on every possible occasion; t expresses joy and sorrow, success in war or in the chase, and if eath removes a member from a community the drum is beaten o prevent the spirit from returning to torment the living. The ame author quoting Hall gives the construction of one of these rums in detail: "The drum is made from the skin of the deer (or seal) vhich is stretched over a hoop of wood, or of bone from the fin of a vhale, by the use of a strong, braided cord of sinew passed around a roove on the outside. The hoop is about 2½ inches wide, 1½ inches hick, and 3 feet in diameter, the whole instrument weighing about pounds. The wooden drumstick, 10 inches in length and 3 inches n diameter, is called a *kentun*. . . . The deerskin which is to be the ead of the instrument is kept frozen when in use. It is then thor- oughly saturated with water, drawn over the hoop, and temporarily astened in its place by a piece of sinew. A line of heavy, twisted

. cf. Boas. Chinook Songs. Jour. Amer. Folk-lore, vol. 1, p. 220, 1888; Boas and Rink. Eskimo Tales and Songs. Jour. Amer. Folk-lore, vol. 2, . 123, 1889.

. Boas. The Central Eskimo. Bur. Ethnol. 6th An. Rept. 1884–1885, . 600 ff. Wash. 1888.

Class III Vibrating Membranes

sinew, about 50 feet long, is now wound tightly on the groove on the outside of the hoop, binding down the skin. This cord is fastened to the handle of the *kilaut* (drum), which is made to turn by the force of several men (while its other end is held firmly) and the line eased out as required. To do this a man sits on the bed-platform 'having one or two turns of the line about his body, which is encased in furred deerskins, and empaled by four upright pieces of wood.' Tension is secured by using a round stick of wood as a lever on the edge of the skin, drawing it from beneath the cord. When any whirring sound is heard little wisps of reindeer hair are tucked in between the skin and the hoop, until the head is as tight as a drum.

"When the drum is played the drum handle is held in the left hand of the performer, who strikes the edge of the rim opposite that over which the skin is stretched. He holds the drum in different positions, but keeps it in a constant fan-like motion by his hand and by the blows of the *kentun* struck alternately on the opposite sides of the edge. Skillfully keeping the drum vibrating on the handle, he accompanies this with grotesque motions of the body, and at intervals with a song, while the women keep up their own Inuit songs, one after another, through the whole performance. . . ." Boas also states, "The drum is sometimes played with the wrist of the right hand instead of the beater."[1]

Various names for these hoop drums are found in different localities. The Eskimo of Angmagsalik, Greenland, have one called *krilaët*.[2] The Iwilik Eskimo of North Hudson Bay have a hoop drum made of drift wood and reindeer skin called *kilowty*. The Koluschan or Tlingit Indians of Sitka, Alaska, have one called *gau*.[3] Among the Skittagetan of Vancouver Island it is called *ga-udjau;* and the Kwakiutl (Wakashan) of the same locality call a similar drum *menatse*. The *poo-ma-ka* of the Salishan Indians, Washington, is a hoop drum, while the *poo-min* of the same tribe is made from a cedar log. The Makah (Wakashan) have a hoop drum two feet in diameter called *kut-hoi-yeh*, of which there is a fine specimen in the Museum of the University of Pennsylvania, Phila. The Makah are located around Neah Bay, Washington.

595 DRUM. A circular frame of wood with membrane stretched over one side fastened to the rim with tacks. The exterior surface stained yellow, the interior decorated with

1. The Central Eskimo. Bur. Ethnol. 6th An. Rept. 1884–1885, p. 601.

2. Cat. Musikhistorisk Museum, Copenhagen, 1909. No. 520, K82, p. 113.

3. U. S. Nat. Museum Coll. Nos. 20,731; 60,222.

DRUMS. AMERICAN INDIANS

PP 90–92, 131, 132, 141, 142

a totemic design of the raven in black. Tribe: Chilkat. Family: Koluschan. Locality: Nushagak Bay, Alaska.
Diameter, 11½ inches. Depth, 2½ inches.
While this drum was acquired from Nushagak Bay, Alaska, the decoration is of marked Chilkat origin, a Tlingit tribe located farther south about the Lynn Canal.

2781 DRUM. *Chau-i-yuk*. A large circular frame of wood with skin stretched over one side, decorated with a totemic design resembling the *wasko* (wolf)[1] in red and black. Family: Skittagetan. Locality: Victoria, B. C.
Diameter, 24 inches. Depth, 3 inches.
A similar specimen in the U. S. Nat. Museum Coll. (No. 38,877) from Cape Vancouver bears the name *chau-i-yuk*. In another (No. 73,020) from the Commander Islands, Siberia, the name is *cha-yakh(r)*. The stick of this drum is called *tum-ga-shikh(r)*.

627 DRUM. Similar to No. 561. The edge of the membrane decorated with bands of red and blue and four arrowheads. Carved wooden beater. Tribe: probably Tinne. Family: Athapascan. Locality: Coast of Alaska.
Diameter, 16½ inches. Depth, 2 inches.
Collected by E. W. Nelson, U. S. Nat. Museum.

3442 DRUM. A strip of wood bent in a hoop with skin stretched over one side and fastened with twine in a groove. The carved bone handle, in the form of a fish, is notched for the fingers. Family: Eskimauan. Locality: Cape Espenberg, Alaska.
Diameter, 1 foot 3 inches. Handle, 4⅜ inches.

3444 DRUM. Similar to No. 3442. The handle of wood. Wooden wand beater. Family: Salishan. Locality: Chilcoten (Fraser River), British Columbia.
Diameter, 1 foot 3¼ inches. Handle, 5 inches.

3443 DRUM. Similar to No. 3444. The wooden rim is fastened with nails and the skin held in place by twine.

1. Wasko is a mythological being of the wolf species, similar to the *chu-chu-hmexl* of the Makah Indians, an antediluvian demon supposed to live in the mountains. Mallery. Bur. Ethnol. 10th An. Rept., 1888–1889, p. 404, Wash. 1893.

Class III Vibrating Membranes Division 1 Struck Section A Drums 1. With one head

A bone handle. Wooden wand beater. Family: Salishan. Locality: Chilcoten (Fraser River), British Columbia. Diameter, 1 foot. Handle, 3 inches.

2890 DRUM. *Kelyaut.* A circular frame of wood with a short, straight bone handle, which terminates in a carved head. The skin stretched across the hoop is fastened with a cord of sennet or three-ply braid of sinew. Family: Eskimauan. Locality: Point Barrow, Alaska.
Diameter, 1 foot 4½ inches. Handle, 5 inches.
A similar specimen in the Peabody Museum (No. 13,084), Salem, Mass., is decorated with crude paintings of animals in black.

667 DRUM. *Kelyaut.* A small, irregular hoop of whale-bone with skin stretched across it. A short bone handle. Family: Eskimauan. Locality: Greenland.
Diameter, 8¼ inches. Handle, 2 inches.
Collected by Lieutenant Peary.
Kroeber[1] quoting Lieut. Peary illustrates and describes a similar drum made from seal intestine and beaten with the rib of a walrus.
In an article on the Ammassalik Eskimo of East Greenland, Thalbitzer[2] describes certain "drum or malice songs" indulged in by these people. These he states "are the guise which justice assumes in these small communities. Two opponents meet before an assembly during the light summer nights and hurl satiric songs at each other in the hearing of all.
"These songs are extemporized to suit the particular occasion, and are performed drum in hand; each of the opponents takes the lead in turn, dancing, singing, and making wry faces at his adversary and at certain intervals even butting him in the face with his chin. These proceedings are so many scenes or stages in a suit, which will be protracted for years and will probably embrace the greater part of the two men's lives."

561 DRUM. *Kelyaut.* A circular frame of wood with a short, straight handle of whale-bone; carved head on the

1. cf. Kroeber. The Eskimo of Smith Sound. Amer. Museum of Nat. Hist. Bul. XII, p. 302, 1899.

2. Thalbitzer. The Heathen Priests of East Greenland (Angakut). Congrès Internat. des Américanistes 16, Wien, 1908, p. 447 ff.

end attached to the rim. The skin stretched across this hoop and fastened with a cord of sennet or three-ply braid of sinew. Family: Eskimauan. Locality: Point Barrow, Alaska.

Diameter, 1 foot 4½ inches. Handle, 5 inches.

Murdoch[1] in describing the musical instruments of the Point Barrow Eskimo writes as follows: "The only musical instrument in use among these people is the universal drum or tambourine (*kelyaut*), consisting of a membrane stretched over a hoop with a handle on one side, and used from Greenland to Siberia. It is always accompanied by the voice singing and chanting. The player holds the handle in his left hand with the membrane away from him, and strikes alternately on each side of the rim with a short heavy piece of ivory, or a long slender wand, rotating the drum slightly at the same time, to meet the stroke. This produces a round, resonant, and somewhat musical note. There appears, however, to be no system of tuning these drums, the pitch of the note depending entirely on accident." The frame is usually a flat strip of willow about an inch wide bent until the two ends meet, which are fastened together by a strip of walrus ivory on the inside of the hoop and secured to the frame by neat stitches of black whale-bone.

The membrane appears to be the peritoneum of a seal. In old specimens the handle is usually of walrus ivory with a carved head on the drum end and grooves cut for the fingers, although the horn of an antler is sometimes used. The beater varies in form; often a short, thick stick of ivory, or again a slender, elastic wand.

592 DRUM. Similar to No. 2890. A circular frame of wood with a carved ivory tusk handle. Family: Eskimauan. Locality: Norton Sound, Alaska.

Diameter, 1 foot. Handle, 4 inches.

Collected by E. W. Nelson, U. S. Nat. Museum.

587 DRUM. A circular frame made of a narrow strip of wood, with a straight handle. Similar to No. 561. Tribe: Nushagagmiut(?) Family: Eskimauan. Locality: Nushagak Bay, Alaska.

Diameter, 1 foot 6 inches. Handle, 1 foot.

1. Murdoch. Bur. of Ethnol. 9th An. Rept., 1887–1888, p. 385. Wash., 1892.

Division 1
Struck
Section B
With two
heads

626 DRUM. Circular frame of wood covered on both sides with skin, the surface stained dark green, the edges brown. Family: Eskimauan. Locality: Alaska.

Diameter, 1 foot 4 inches. Depth, 4½ inches.

A drum with two heads from the Indians of Yukon River district collected by E. W. Nelson of the U. S. Nat. Museum (No. 33,140), bears the name *chau-i-ya-jung-uk*. The Little Whale Indians (Hudson Bay Eskimo) have a drum with a cylindrical shell of wood and heads of untanned deerskin.

CLASS IV SONOROUS SUBSTANCES

Perhaps the most important instrument of this region is the rattle; it is regarded as sacred and figures in all religious feasts and shamanistic ceremonials. While there are many varieties, some of which are found in other localities, still there are certain types peculiar to these northern tribes that have a character all their own. This is especially true of the Haida or Skittagetan and Chimmesyan groups, whose handicraft shows a degree of artistic excellence attained by no other tribes. The symbolism with which the region abounds, and that manifests itself in the elaborate carving of the totem poles, is evidenced as well, though on a smaller scale, in the rattles; and the remarkable skill with which the emblems of the different gens are evolved, tends but to accentuate the mystery surrounding the ceremonial. A popular form employed by the sorcerers is described as a "clapper," among the Eskimos called *a-ga-shak*. This is usually carved in the shape of a grotesque animal head with movable jaws that are worked by a hidden string, which, in the hands of the sorcerer clothed in his ceremonial garb, his features hidden by a hideous mask of carved wood embellished by cedar bark trimmings, is most effective in reducing his followers to the state of frenzy necessary for the working of his magic art. Among the Haida this form of rattle is called *htagano*. The bird form of rattle so popular with this tribe, is called *sisa* or *shi-sha*, and when this form has a human figure carved on the back the name is *skaga shi-sha*. Among the Tlingit, rattles of different forms are known as *cecoq* or *djin-kaxeta*, the wand rattle with pendant puffin beaks being named *djekayue'ta* or *djin kaqueta*. The Salish Indians of the Tulalip Reservation, Washington, have a pecten-shell rattle which they name *sohe-de-dan*. The Kwakiutl[1] name for any kind of a rattle is *iaten*, while dance rattles

1. Indian names for rattles were received from Franz Boas and E. H. Hawley of the U. S. Nat. Museum.

CEREMONIAL RATTLES. INDIANS OF THE NORTHWEST COAST
PP. 95–97

are called *kua quaten*. This tribe also designates various kinds of drums as *menatse*, this name applying as well to the *kelyau* of the Eskimo, a pine plank laid on the ground and beaten, or the box-like drum, the *ga-udjau* of the Skidegate. The Eskimo name for rattle in the Lekwiltok, Nimkish, Tlatlasikoala, and Haeltzuk villages is the same as that of the Kwakiutl,—*iaten*. The Nimkish also employ the Kwakiutl term—*kua quaten*. In the Gyit'amat village a gong is called *menatse*, the Kwakiutl word for drum.

With the rattles as with the other instruments from the Northwest Coast, it has been impossible except in occasional instances, to more than suggest the probable provenance of the various specimens.

646 RATTLE. Bird form of carved wood. The bird has a long neck and beak, painted red; the breast is black and the wings and back are decorated with a totemic emblem in black. Locality: Vancouver Island.
Length, 11¼ inches. Width, 3½ inches.
Vancouver Island is occupied by the two great divisions of the Wakashan linguistic stock—the Kwakiutl and the Nootka.

Class IV Sonorous Substances Division 1 Struck

2263 RATTLE. Bird form of rudely carved wood, decorated with totemic emblems in purple stain. Locality: Vancouver Island.
Length, 12 inches. Width, 3 inches.

2262 RATTLE. Bird form resembling a duck, similar to No. 2263. Tribe: probably Nootka. Family: Wakashan. Locality: Vancouver Island.
Length, 11 inches. Width, 3¼ inches.

2259 RATTLE. Bird form of rudely carved wood, decorated in red and blue. Tribe: probably Nootka. Family: Wakashan. Locality: Vancouver Island.
Length, 9 inches. Width, 2 inches.
cf. Boas. The Social Organization and Secret Societies of the Kwakiutl Indians. Smith. Inst. An. Rept. 1895. pl. 50. Wash. 1897.

647 RATTLE. Similar to No. 646. Carved in the form of a crow. The head and breast painted in red and black,

Class IV
Sonorous
Substances
Division 1
Struck

the folded wings decorated with a totemic emblem, in red, black, and green. Locality: Vancouver Island.
Length, 9½ inches. Width, 2¾ inches.
Collected by James G. Swan, U. S. Nat. Museum. A similar specimen in the U. S. Nat. Museum Coll., No. 88,727.

2623 RATTLE. Wood carved in the form of a sparrow hawk. On the back a frog with a spotted serpent protruding from its mouth. The head of the serpent rests on the top of the bird's head. The decoration is in black and red, the breast bearing the totemic emblem of the hawk with a curved beak. Tribe: probably Nootka. Locality: Vancouver Island.
Length, 13 inches. Width, 3½ inches.
Collected by James G. Swan, U. S. Nat. Museum. A similar specimen in the U. S. Nat. Museum Coll., No. 10,309.

611 RATTLE. Bird form carved from a block of wood split lengthwise, the two edges neatly joined. The breast of the bird is ornamented with a totemic emblem and on the back are the two carved figures peculiar to these rattles. One represents the shaman, and the other the kingfisher, often supplemented by the frog, the two figures being united by a continuous tongue which extends from the mouth of one to the other. The kingfisher and frog are supposed to supply the shaman with his necessary magic. The prevailing colors are red, blue, and black.
Length, 12 inches. Width, 4 inches.
This is a true type of ceremonial rattle of the Tsimshian (the *skaga-shi-sha* of the Haida), who are located along the northern coast adjacent to Queen Charlotte Islands. The symbolism of this rattle is described by Niblack, Smith. Inst. An. Rept. (year ending June 30, 1888), pl. LIII, fig. 286, Wash. 1890. U. S. Nat. Museum Coll. No. 89,085.

615 RATTLE. Bird form similar to No. 611, emblematic of the crow gens. Tribe: probably Tsimshian. Family: Chimmesyan. Locality: Skidegate, Queen Charlotte Islands. Length, 13 inches. Width, 4½ inches.

616 RATTLE. Carved wood in the form of an animal's head with open mouth showing the teeth. This is sur-

RATTLES. INDIANS OF THE NORTHWEST COAST
PP. 96–98

mounted by a reclining figure, the head of which appears between the ears of the animal. The surface painted red, black, and blue. Family: probably Skittagetan or Haida. Locality: Queen Charlotte Islands.
Length, 8 inches. Width, 3 inches.

Class V: Skittagetan Chimmesyan: Simsk

21681 RATTLE. Bird form similar to No. 614, emblematic of the crow gens. Tribe: probably Tsimshian. Family: Chimmesyan. Locality: Skidegate, Queen Charlotte Islands.
Length, 12½ inches. Width, 3½ inches.
Collected by James G. Swan, U. S. Nat. Museum.

614 RATTLE. Wood, carved in the form of a double-headed eagle, the body and wings decorated with a totemic design in blue and black. Locality: Sitka, Alaska.
Length, 10 inches. Width, 4¾ inches.
Collected by James G. Swan, U. S. Nat. Museum.
This form was probably suggested by the double eagle of the Russian standard.

610 RATTLE. Carved. Bird form, similar to No. 614. Locality: Sitka, Alaska.
Length, 9¼ inches. Width, 3¾ inches.
Collected by James G. Swan, U. S. Nat. Museum.
of Nutlack. Smiths. Inst. An. Rept. 1888, pl. LV (II), fig. 301. Wash. 1890. U. S. Nat. Museum Coll. No. 20,762.

2264 RATTLE. A block of wood in the form of a flattened bulb with a straight handle, split lengthwise, the two sides hollowed out and fastened together with twisted sinew. Each side carved in the form of a human face with open mouth showing the teeth. Tribe: probably Nootka. Family: Wakashan. Locality: Vancouver Island.
Length, 12 inches. Width, 6¼ inches.
See note to No. 3123, p. 57.

581 RATTLE. K'ul-hoya'ngw. Wood. A bulbed head with a face carved on two sides, the eyes, eyebrows, and hair painted blue. Locality: Alaska.
Length, 10 inches. Width, 4½ inches.
Collected by Dr. J. B. White, U. S. A.

1963 RATTLE. Wood. Globular form carved to represent a head on a straight handle. On one side a totemic em-

Class IV
Sonorous
Substances
Division 1
Struck

blem carved in low relief, on the opposite side a face with a beaked nose that extends over the open mouth and two rows of teeth. Tribe: Haida or Tsimshian. Locality: Northern coast adjacent to Queen Charlotte Islands.

Length, 11 inches. Width, 7 inches.

An interesting specimen of one of the earlier forms of rattle. The carving represents the hawk, one of the eight totemic symbols described by Franz Boas in his book, The Decorative Art of the Indians of the Pacific Coast, p. 136.[1] cf. Smith. Inst. An. Rept. 1888, pl. LIX, fig. 309. Wash. 1893. U. S. Nat. Museum Coll., No. 88,796.

2025 RATTLE. Carved from a block of wood in the form of a bulbed head with a straight handle. The two sides are hollowed out, the edges neatly joined and the handle wound with a thong of animal sinew. The surface is carved with a human face in low relief on each side and the prevailing colors are red, blue, and black. Family: probably Haida or Tsimshian. Locality: Northern coast adjacent to Queen Charlotte Islands.

Length, 12 inches. Diameter of head, 6½ inches.

An interesting rattle of this type, now in the British Museum, was collected by Captain Vancouver during his voyage (1790–1795). It is illustrated and described by Dalton.[2] The head of the rattle is carved with a totemic face and the dark brown handle finished with a bird's head is fastened to the head with a thong of birch bark. The rattle measures 35 cm.

612 RATTLE. *K'el-hitaga'ngo.* Carved from a block of wood, the head a flattened bulb with a straight handle, the two sides hollowed out, and the edges neatly joined. The head is encircled by a band of red and a line of blue; each side has a painted face with round black eyes and heavy brows, the nose and lips in red. Family: probably Haida or Tsimshian. Locality: Northern coast adjacent to Queen Charlotte Islands.

Length, 8½ inches. Diameter of bulb, 3½ inches.

Collected by James G. Swan, U. S. Nat. Museum.

1. Amer. Museum of Nat. Hist. Bul. 9, 1897.

2. Dalton. Notes on the Ethnological Collection from the West Coast of North America, etc. Inter. Archiv. für Ethnog. vol. 10, p. 225, fig. 19, pl. XV, 1897.

2621 RATTLE. Carved from a block of wood in the form of a flattened bulb with a straight handle, split lengthwise, and the edges tied together at four points by thongs of twisted animal sinew and cedar bark. The carved surface has a grotesque face on one side and on the reverse a totemic emblem. The colors are red, green, and black. Tribe: probably Kwakiutl. Family: Wakashan. Locality: Vancouver Island and adjacent coast.
Length, 8¾ inches. Diameter of bulb, 5½ inches.

2265 RATTLE. Similar to No. 2264. In this specimen the two sides are tied together with leather thongs. The smooth surface, originally painted red, is decorated with a band of incised lines around the edge of the bulb, and in the center on each side is a circle with radiating lines symbolic of the sun. Family: probably Koluschan or Tlingit. Locality: Northwest Coast.
Length, 11 inches. Diameter of head, 7 inches.
This is a true type of the shaman's rattle found among the Tsimshian and Tlingit. Smith. Inst. An. Rept. pl. LIX, fig. 311, U. S. Nat. Museum Coll., No. 74,333.

2258 RATTLE. Wood. Egg-shaped, with a straight handle. No decoration. Family: probably Koluschan or Tlingit. Locality: Northwest Coast.
Length, 8½ inches. Diameter, 2 inches.

3406 RATTLE. Wood. A round flat head with a straight handle. A disc of red in the center of each side and a band of the same color around the edge. Family: probably Koluschan or Tlingit. Locality: Northwest Coast.
Length, 8 inches. Diameter of head, 3¼ inches.

1965 RATTLE. A ring of wood with a short straight handle closed at the end with a wooden plug. The surface is painted red and black and ornamented with lines and grotesque figures.
Length, 8 inches. Diameter of ring, 5 inches.
Used in shamanistic ceremonies. In examining this rattle Lieutenant Emmons stated that while he had never seen a rattle of this kind in Alaska the decoration was of the type found among the Eskimo at the mouth of the Kuskokwim River north of Bristol Bay, Alaska.

Class IV
Sonorous
Substances
Division 1
Struck

2260 RATTLE. Carved from a block of wood in the form of a pecten shell, with a straight handle. The surface is colored pink and the handle wound with red and white cotton cord. Locality: Southern coast of Alaska.
Length, 9½ inches. Width, 4 inches.

613 RATTLE. Wood, carved in the form of a dumb-bell with cylindrical heads. The surface stained a dull pink and blue. Tribe: probably Nootka. Family: Wakashan. Locality: Vancouver Island and Cape Flattery.
Length, 12½ inches. Diameter of head, 2 inches.
Used in shamanistic ceremonies.

565 RATTLE. Wood. An oblong box, the four sides bound together with strips of bark and leather, attached to the center of a long stick. Tribe: Chnagmiut (?), of the Eskimauan family, located in and around Razboinski, on the Yukon River, Alaska.
Length of stick, 41½ inches. Length of box, 14½ inches. Diameter, 2¾ inches.
Brown. Musical Instruments, pl. Miscellaneous, No. 2.

1456 RATTLE. A quadrangular box of wood, the edge following the outline of a totemic emblem (Killer-whale ?).[1] A handle on one side connecting with a bellows on the inside of the box which operates a whistle. Family: probably Koluschan or Tlingit. Locality: Northwest Coast.
Length, 11 inches. Width, 9 inches. Depth, 3 inches.

2732 RATTLE. Two hoops of wood, one smaller than the other, covered with red flannel and fastened on a cross-bar. The rattle consists of dew-claws hung loosely on the rings. Family: probably Koluschan. Locality: Northwest Coast.
Diameter of larger hoop, 7½ inches.
Rattles made from the hoofs and dew-claws of ruminant animals are found among many tribes and are scattered over a wide area. The types recorded are as follows: 1. Those in which the hoofs are pierced and strung on fibre cord or thongs of buckskin and bunched together. (Mission Indians, California; U. S. Nat. Museum Coll. Nos. 21,328; 213,567. Jamamamadi Indians, Brazil; U. S. Nat. Museum Coll. No. 210,004, in which the rattles are

1. Boas. The Decorative Art of the Indians of the Pacific Coast. Amer. Museum of Nat. Hist. Bul. 9. 1897.

of bird bones and tapir hoofs. Paraguay; U. S. Nat. Museum Coll. No. 210,563. Keresan Indians, New Mexico; U. S. Nat. Museum Coll. Nos. 134,372; 134,492, made of goat toes and called *ko-ta*.) 2. The belt rattle, made of leather or cloth fringed with pendant hoofs similar to No. 571, p. 171, such as is worn by the Tarahumara Indians of Mexico. 3. The leg rattle in which the hoofs dangle from the edge of a turtle shell, the *yung-uh-sho-na* of the Hopi (No. 620, p. 158; the Hupa Indians, California, U. S. Nat. Museum Coll. No. 77,190, also No. 22,884.) 4. The wand form with the hoofs suspended from a leather-covered stick (No. 726, p. 173; also the Yankton Sioux, U. S. Nat. Museum Coll. No. 153,727; Arapaho, U. S. Nat. Museum Coll. Nos. 165,760; 200,571; 165,760; and Amer. Museum of Nat. Hist. Coll. (cf. plate facing p. 174.) With the Nez Perces, the native name for this form is *lakat*, U. S. Nat. Museum Coll. No. 23,859; and Navaho, U. S. Nat. Museum Coll. No. 74,730, native name, *najgih*). 5. The ring form of the Eskimo, the shaman rattle, *kol-chai-ak*, is made of two concentric wooden hoops lashed to cross-bars; to the hoops are hung pendant feathers and bears' claws, hoofs, pecten shells, or puffin beaks (*alca arctica*), as in No. 2732. Many examples of these are shown in the ethnological collection of the U. S. Nat. Museum, the Amer. Museum of Nat. History, the Peabody Museum, Harvard University, Cambridge, Mass., and the Peabody Museum, Salem, Mass. cf. Wilson. Prehistoric Art, Smith. Inst. An. Rept. 1896, p. 563, Wash. 1898, fig. 202, and notes to No. 3343, p. 172, and No. 726, p. 173.

3344 RATTLE. A small wooden wand wound with spruce root. On one end three pendant dew-claws, on the opposite end two. Family: probably Koluschan or Tlingit. Locality: Northwest Coast.
Length, 6¼ inches.
Four similar specimens (Nos. 1771–1773) in the Peabody Museum, Harvard University, Cambridge, Mass. Probably used in pairs.

624 RATTLE. *So-he-de-dan.* Six pecten shells strung on a cord. Locality: Alaska.
Diameter of shells, 6¼ inches.
Used by the Shamans.

Class IV
Sonorous
Substances
Division 1
Struck

The Rev. Myron Eells[1] describing the culture of the Clallam Indians mentions a rattle made of deer hoofs, also rattles made of the scallop-shells which are found in their waters: "A hole is made near the hinge of each shell, and a number of them are strung on a stick about the size of a lead pencil, which is bent in a circular form and serves for a handle. These are shaken edge downwards. If shaken side downwards they are likely to be broken, in which case the person holding them will, according to their belief, die soon."

Wm. H. Holmes[2] states that many tribes of the northwest have rattles of *pecten caurinus* and *pecten hastatus* shells.

2782 BATON. A carved club of hard wood used for marking the time in ceremonial dances. Tribe: Kwakiutl. Family: Wakashan. Locality: Vancouver Island.

Length, 1 foot 2 inches. Diameter, 1¾ inches.

These batons, used in the winter ceremonial of the Kwakiutl Indians, are described by Boas.[3] The singers are arranged in rows having in front of them long planks on which they beat the rhythm with batons. The ordinary batons are of split pine wood with one end smoothed for a handle. The more elaborate ones used by the singing masters are carved with totemic emblems. The present specimen has a carving of a sea-lion around the larger end. The planks are sometimes struck with the end of the baton and sometimes with its side.

1541 BOX DRUM. A quadrangular box with a totemic painting in red and black on one of the larger sides. Tribe: Kwakiutl (Musquiam). Family: Wakashan. Locality: Cape Mudde at the mouth of the north arm of the Fraser River, British Columbia.

Length, 2 feet 8 inches. Width, 2 feet 3 inches. Depth, 1 foot 4 inches.

This drum is used in the ceremonial of the Hamats'a

1. The Twana, Chimakum and Klallam Indians of Washington Territory. Smith. Inst. An. Rept. 1887, pt. 1, p. 652. Wash. 1889.

2. Art in Shell of the Ancient Americans. Bur. of Ethnol. 2d An. Rept. 1880–1881, p. 190. Wash. 1883.

3. The Social Organization and the Secret Societies of the Kwakiutl Indians. Smith. Inst. An. Rept. 1895, pp. 431, 437, 508 ff. Wash. 1897.

described by Boas.[1] When in use it is partially filled with water and tilted a little to one side; it is struck by the clenched right hand of the performer who is seated. The Kwakiutl name for drum is *menatse*. The Skittagetan word for a box drum is *ga-udjau*.

1. cf. Boas. The Social Organization and the Secret Societies of the Kwakiutl Indians. Smith. Inst. An. Rept. 1895, pl. 29, p. 446. Wash. 1897. Idem. Decorative Art of the Indians of the North Pacific Coast. Amer. Museum of Nat. Hist. Bul. 9. 1897.

CLASS I STRINGED INSTRUMENTS

Section B[1] Struck Strings.

3250 MUSICAL BOW. *Ha-hai-shim.* A flat strip of ash with a spur at each end, one side painted red and decorated with arrow-heads in black and white. Two fibre strings. Tribe: Yokaia (Pomo). Family: Kulanapan. Locality: Ukiah Valley, Northern California.

Length, 2 feet 1¼ inches. Width, 1½ inches.

In playing this instrument the performer places the unpainted side of the bow against his lips[2] and strikes the strings with a small piece of deer bone. The strings are usually of two tones and the size of the buccal cavity controls the pitch. Some of the tribes call this the "silent music" as only the one playing the intrument can hear the sound produced. The bone striker is called *ga-di-so-liu*, which being translated means "bone music." Like the Winnebago courting flute this instrument is popular with lovers. In this bow the strings lie close to the wood, although originally they may have been raised from the surface by slips of wood as in the *ukeke*[3] of Hawaii, with which form of bow it is identical. It also resem-

1. Section A. Plucked Strings not represented.

2. The mountain tribes of Formosa have a musical bow of split bamboo with a wax-coated, twisted string of fibre. This is held in the left hand, the end resting against the shoulder. The lower part of the string is "struck" with the fingers, while the upper end is put in vibration by the lips of the player. Among the Tsoo of Central Formosa this is called *posoru;* among the Vonum, a tribe to the northwest of Tsoo, *radyok;* and on the southeast coast among the Puzuma, *ratok*. H. ten Kate. The Musical Bow in Formosa, in Amer. Anthrop. New Ser. vol. 5, p. 581, 1903.

3. Catalogue of the Crosby Brown Collection, Oceania, p. 51, 1907. Balfour. Musical Bow, p. 81 ff.

bles one in the Oxford Museum from the Mungeri district, New Georgia, Solomon Islands, illustrated and described by Balfour.[1] Like some of the African[2] bows it is held against the lips or teeth, the buccal cavity acting as a resonator.

Mason[3] describes a musical bow, the *mawahellis*, of the Tejon tribe of the Tule River Indians, California, as a bow of tule reed with a longitudinal half section of the upper joint removed and a hole made in the lower end for a vertical tuning peg, which carries a string of gut. U. S. Nat. Museum Coll. No. 19,87.

The Omaha[4] of North Dakota employed the musical bow in its most primitive form in the Witcita Dance, described by Dorsey as one of their ancient tribal ceremonies. In this dance "each of the four singers has a gourd rattle, a bow, and an arrow. He holds the bow, which is whittened, in his left hand, and the rattle and arrow in his right." He strikes the arrow against the bow strings as he shakes the rattle." Among the Cora and Huichol of Mexico and the Maidu of California the musical bow has a gourd resonator,[5] and in New Mexico the *thlinthli-no-me* (U. S. Nat. Museum Coll. No. 48,049) of the Pueblo Indians has a tuning-peg. The presence of the musical bow among the American Indians has been discussed by numerous authorities, and while research has not yet satisfactorily proved it indigenous, still its use among widely separated tribes lends a certain weight to that theory. Further notes on this subject will be found in the Appendix.[6]

2842 FIDDLE. *Tʒit-idoatl*.[7] A cylindrical body formed from an agave flower stalk stained and decorated with arrow-heads and crosses in red and black. A single peg pierces the body from side to side and holds the two strings

Class I Stringed Instruments Section C Bowed Strings

1. Balfour. Musical Bow, p. 77.
2. cf. Balfour. Musical Bow, pp. 7, 9. Africa. No. 1739.
3. cf. Mason. Amer. Anthrop., vol. 10, p. 377, 1897.
4. Omaha, a tribe of the Siouan stock located in North and South Dakota and in Nebraska. See also Dorsey, J. Owen. Omaha Sociology, in Bur. of Ethnol. 3rd An. Rept. 1881–1882, p. 350. Wash. 1884.
5. See Appendix, p. 260.
6. Page 258.
7. Bourke translates *t'ʒit-idoatl* as "music wood." The Religion of the Apache Indians. Folk-lore, vol. 2, p. 450, 1891.

Class I Stringed Instruments Section C Bowed Strings

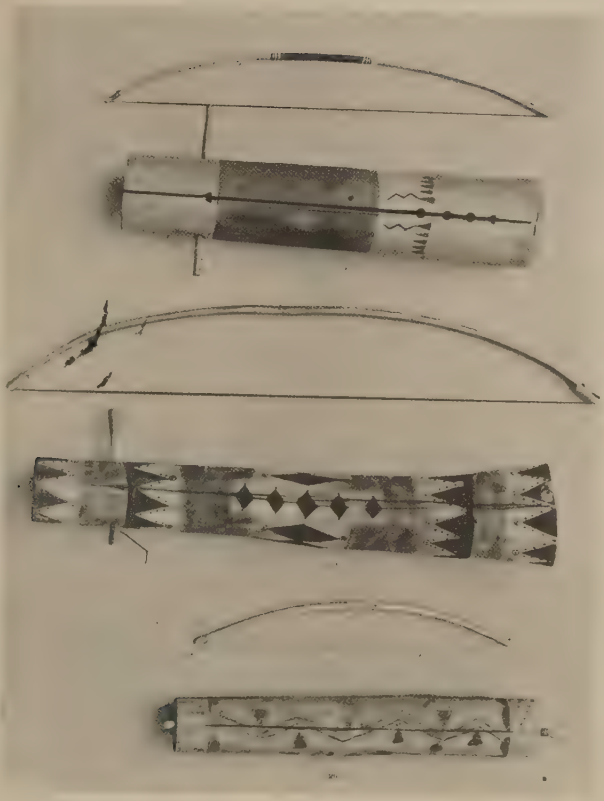
of horsehair. Near the lower edge two string pegs. Sound-holes in the front in the shape of arrow-heads. Tribe: Apache. Family: Athapascan. Locality: White Mountain Reservation. U. S. Nat. Museum Coll., 5,521.
Length, 1 foot 7½ inches. Diameter, 4 inches. Bow, 1 foot 8 inches.

"These fiddles are peculiar to the White Mountain Reservation and San Carlos Apache of Arizona. They seem to be of comparatively recent introduction and may have been suggested by Mexican or even American fiddles." [1] With the exception of the musical bow this is the only form of stringed instrument found among the North American Indians.

The Apache[2] are a number of tribes forming the southerly branch of the Athapascan family, located in New Mexico and Arizona. They have always been a warlike tribe noted for their hostility toward white and Indian settlements alike. From a musical standpoint they are interesting as having the only bowed instrument found among the North American Indians, a rude form of fiddle made of the flower stalk of the agave. In form and construction it resembles the *kodili*,[3] the musical bow of the Solomon Islands; also the musical bow from New Guinea, described by Balfour.[4] Owing to the proximity of this tribe to the Mexican border this type doubtless owes its origin to Spanish influence. Among the Arapaho the Apache are called *Tha'kahine na*,—"saw fiddle men." [5] The Apache also use the notched-stick rattle which, according to Hayden,[6] is accountable for the tribal name *That-a-i-nin*, —people who play on bone instruments, that is, a pair of buffalo ribs, one notched, over which the other is rubbed.

2631 FIDDLE. *Tzit-idoatl.* A cylindrical body of palm wood stained with bands of yellow, and decorated with designs of arrow-heads, circles, and dots in red and black. The string of horsehair. Five diamond-shaped sound-

1. Mss. Walter Hough, U. S. Nat. Museum. Wash. 1912.
2. Bur. of Amer. Ethnol. Bul. 30, pt. 1, p. 63. Wash. 1907.
3. Oceania, No. 1734.
4. cf. Balfour. History of the Musical Bow, p. 76 ff.
5. cf. Gatschet. Mss. Arapaho vocab. Nat. Museum.
6. Ethnography and Philology of the Missouri Valley, p. 326, 1862, quoted in Bur. of Amer. Ethnol. Bul. 30, pt. 1, p. 67. Wash. 1907.



APACHE FIDDLES
PP. 106, 107

holes. Peg missing; near the edge a movable bridge. Tribe: Apache.
Length, 1 foot 5½ inches. Diameter, 3½ inches. Bow, 1 foot 4 inches.

596 FIDDLE. *Tzit-idoatl.* The surface varnished and decorated with bands of arrow-heads, dots, and bits of metal inlay. A knobbed peg carries a single gut string. Two movable bridges. Tribe: Apache.
Length, 1 foot 5½ inches. Diameter, 2½ inches. Bow, 1 foot 8¾ inches.
Made by Choppo Geronimo, a Chiricahua Apache Indian, while imprisoned at Mt. Vernon Barracks, Alabama.

600 FIDDLE. *Tzit-idoatl.* Cylindrical body of wood painted white and decorated in bright colors. In front a narrow serpentine slit terminating in an open triangle. A single peg pierces the body from side to side. The string is of horsehair. Bridge missing. Tribe: Apache.
Length, 1 foot 3 inches. Diameter, 3 inches. Bow, 1 foot 3 inches.
Made by an Apache Indian at the Carlisle School for Indians. cf. Kraus: Appunti sulla musica etc. in Archivio per l'antropol. vol. 37, p. 47. pl. I.

604 FIDDLE. *Tzit-idoatl.* Similar to No. 596. Cylindrical body of palm-wood stained in bands of green, red, and yellow, the yellow ornamented with a design of arrow-heads and wavy lines in indigo. A single string of twisted sinew. Three circular and two triangular holes. Tribe: Apache.
Length, 1 foot 2 inches. Diameter, 1 foot 5 inches.

2924 FIDDLE. *Tzit-idoatl.* A tube of natural palm wood decorated in red and black with various symbolic emblems. Tribe: Apache.
Length, 12½ inches. Diameter, 2 inches. Bow, 12 inches.

1973 FIDDLE. *Tzit-idoatl.* Similar to No. 2924. Surface stained yellow and decorated in red and blue. A long string peg. Tribe: Apache.
Length, 12½ inches. Diameter, 2½ inches. Bow, 10 inches.

2733 FIDDLE. *Tzit-idoatl.* Similar to No. 2924. Stained yellow and decorated with symbolic emblems in blue, red,

Class I
Stringed
Instruments
Section C
Bowed
Strings

and black, and two Indian heads. Peg and bridges missing. Tribe: Apache.
Length, 13½ inches. Diameter, 1½ inches. Bow, 9 inches.

668 FIDDLE. *Tzit-idoatl.* Similar to No. 2924. Made from an agave flower stalk stained yellow. A band of red at the top and one of brown at the opposite end. A string peg at each end. No bridges. Tribe: Apache.
Length, 12½ inches. Diameter, 1½ inches. Bow, 10 inches.

2925 FIDDLE. *Tzit-idoatl.* Similar to No. 2924. A tube of agave flower stalk stained yellow and decorated with various emblems. Three triangular sound-holes. Tribe: Apache.
Length, 11½ inches. Diameter, 1¾ inches. Bow, 11 inches.

3345 FIDDLE. *Tzit-idoatl.* Similar to No. 2924. A cylinder, stained red and black; arrow-heads and the serpentine lightning design scratched on the surface. Tribe: Apache.
Length, 1 foot 3 inches. Diameter, 7 inches.

1746 FIDDLE. *Tzit-idoatl.* A quadrangular, slightly tapering sound-box of wood; the sound-board pierced with S sound-holes, and one in the form of a triangle; decorated with two stars in red and black. Two gut strings fastened with iron tacks at the top and bottom. Two movable bridges. Bow strung with horsehair. Tribe: Apache.
Length, 1 foot 7 inches. Base, 2 inches. Top, 3 inches. Diameter, 1½ inches.

636 FIDDLE. *Tzit-idoatl.* Similar to No. 1746. Sound-box of varnished wood, pierced with circular sound-holes and ornamented with serpentine lines, a dragonfly, and bands of green. One string. Two movable bridges. Tribe: Apache.
Length, 1 foot 10½ inches. Diameter, 1½ inches. Bow, 1 foot 9½ inches.
Made by Choppo Geronimo, a Chiricahua Apache Indian. The bridges are simply pegs of wood slipped in to hold the string and do not serve to alter the pitch.

*2734 FIDDLE. *Tzit-idoatl.* Body formed from a section

*Placed with Class I in the kindred instruments of the Historical Groups.

of the stalk of a yucca palm decorated with a geometric design in color.

Length, 12½ inches. Diameter, 1¾ inches. Length of bow, 11½ inches.

CLASS II WIND INSTRUMENTS

The wind instruments of the Indians of the United States differ materially from those found along the Northwest Coast, and may be grouped under three general heads: the bone whistle, the cane flute, and the moose call. The use of the reed,[1] an important feature in the ceremonial instruments of the northwest, is rarely met with among these tribes. The Algonquian, Muskhogean, and Iroquois use a deer call (No. 617) fitted with a single-beating reed of metal that is sounded through a cover as in the European *krummhorn*, the double-beating reed pipe of the sixteenth century (No. 2572, European section). The northern Sioux also have a moose call (No. 3521) fitted with a slip of birch-bark that acts as a beating reed, and the Navaho have a whistle with a ribbon reed, recorded by the Franciscan Fathers.[2] But so far as it has been possible to ascertain, reed instruments appear to be confined chiefly to the paraphernalia of the hunter.

The bone whistle, however, from the earliest times has played an important part in the life of the Indian; specimens found in the graves of the Mission Indians of Lower California (No. 586) are of the same type as those found among Peruvian[3] antiquities, and its use, described by the early writers, continues to the present day. It has always been an important feature in the ceremonies of the Arapaho and other Plains tribes and is described by Catlin as made from the bone of a turkey leg, or the bone of a deer. It was worn about the neck (Pl. facing p. 174), sus-

1. The cup-mouthpiece type does not seem to be represented among the Indian tribes of the U. S., except possibly in the "gourd trumpet" used in the Soyalanna drama of the Walpi described by Fewkes. (A Theatrical Performance at Walpi. Wash. Acad. of Science vol. 2, p. 605. 1900.) In South America, however, many of the tribes employ trumpets made of wood, gourds, and the horns of animals, and in occasional instances, pottery trumpets.

2. Eth. Dict. p. 511.

3. While the use of the bone whistle covers a wide area, extending from the tribes of the Northwest Coast to those resident in South America, it seems to be confined almost exclusively to this country, two exceptions being the *kang tung* (No. 2563, Asiatic Section), the bone trumpet of Tibet, made from the femur or thigh bone of a Llama priest, and the *meijiwiz* (No. 446, Asiatic Section), the reed pipe of Arabia and Northern Egypt, made of bone or cane.

Class II Wind Instruments

pended from a cord of buckskin sometimes wound with porcupine quill, and was used for signaling on the battlefield; "it produced but two notes, one more shrill than the other, the signal for the battle to begin, the other, produced by blowing in the opposite end, sounded a retreat." [1] Francis La Flesche[2] also mentions the bone whistle in his description of the Buffalo medicine men of the Omaha, where, "in the midst of the chorus of voices rose the shrill sound of the bone whistle accompaniment imitating the call of an eagle." Among the Hopi, it is employed in the Snake Dance ceremonies and is made from the bone of an eagle. By this tribe it is called *totoqpi* or *ta-toyk-pi*.[3]

The Indian flute, used principally as an accompaniment to the serenade, is the vertical type, and is found in various materials, cane,—in the southwest the stock of the yucca is used,—wood, metal, and in the northwest among the Sioux the flute is sometimes made of pipe-stone (Catlinite). Catlin also describes one of deer-skin.[4] In the Zuni ceremonial a cane flute is employed that differs

1. Catlin. North American Indians, vol. 1, p. 242 ff. Its use among the Creeks and Cherokees is also described by Bartram, writing in 1791. Travels, p. 505.

2. Jour. of Amer. Folk-lore, vol. 3, p. 217. 1890.

3. On the seventh day of the Oraibi snake ceremony (see Appendix, p. 273) a messenger bearing prayer offerings goes in search of water. Arriving within a short distance of the spring he twirls the bull-roarer (*u-muk-pi*) and blows the bone whistle (*totoqpi*) to announce to the water deities his presence; this is repeated four times until the edge of the spring is reached, when after depositing his offerings the following prayer is made: "Now, then, this here, I have brought for you. With this I have come to fetch you. Hence being arranged in this, thus rain on our crops! Then will these corn stalks be growing up by that rain, when they mature, we shall be here in the light, being nurtured, be happy." (Voth. The Oraibi Summer Snake Ceremony. Nov. 1903. Field Columbian Museum, Pub. 83. Anthrop. Ser. vol. 3, p. 262.) Dorsey. Idem. Pub. 55. Anthrop. Ser., vol. 3, Mch. 1901, p. 31 also describes the use of the bone whistle in the Oraibi Soyal Ceremony in the night ceremonies of the fifth day: "Suddenly a screeching sound was heard outside of the kiva as that of the hawk, which was answered by the same sound from within. This was produced by a small bone instrument which was entirely concealed in the mouth." Among the tribes of the Northwest Coast a small reed pipe is sometimes secreted in the mouth of the shaman or of the sorcerer when he desires to produce the effect of one possessed by an evil spirit. cf. note to No. 2237, p. 78.

4. Catlin describes the Winnebago courting flute (*tsal-eet-quash-to*) or deer-skin flute, which has three, four, and six finger-holes producing the same number of notes with their octaves. Vol. 1, p. 243, pl. 101½. Bancroft mentions a similar Siouan flute (*pib-be-gwun*) with five, six, or seven holes, made of a split tube of cedar, glued together, sometimes held by rings of pewter, and states that the Dakota made it from a single tube of wood while the Chippewa frequently drew a snake's skin over the cedar tube. Vol. 2, p. 514, pl. 75. The Sioux have another form of flute with six finger-

from the usual form; this terminates in a bell, made from the half section of a gourd. The transverse type of flute is represented by a single example (No. 578), the provenance of which is uncertain.

Class II Wind Instruments Section A Whistles 1. Vertical Flutes

1979 BONE WHISTLE. Made from the tibia of a deer. A small hole just below the open end partially closed with pitch or asphaltum. Mission Indians. Family: Shoshonean or Yuman. Locality: San Nicholas Islands, California.
Length, 8¼ inches.

This and the following ten specimens were found in the graves of Mission Indians. The Mission Indians are those tribes of the Shoshonean and Yuman stocks that were brought under the influence of Franciscan missionaries in 1796.[1] These whistles are similar to those shown among the prehistoric instruments,[2] illustrated and described in the catalogue of that section. In nearly every instance the bone is badly cracked and the edges crumbling. See Map of Linguistic Families, p. 334; also articles on Shoshonean and Yuman Families. Bur. of Amer. Ethnol. Bul. 30, pt. 2, pp. 556 and 1011. Wash. 1910.

1978 BONE WHISTLE. Similar to preceding. Locality: San Miguel Island, California.
Length, 7 inches.

1980 BONE WHISTLE. Made from the bone of a bird. Open at both ends.
Length, 7½ inches.

This and the following eight specimens were found in

holes called *co-ya-tanka*, and a whistle, *he-ha-kha-to-to*. Among the Algonquian the carving represents the woodpecker, and a series of dots on the under side of the instrument indicates the number of maidens serenaded by the original owner. A detailed description of the Indian flageolet, furnished by Mr. E. H. Hawley of the National Museum, Washington, will be found in the Appendix, p. 268.

The "mystery flute" and the "Indian flageolet" are illustrated by Kraus in Arch. l'Ant. Etn. vol. 37, p. 47, pl. I. figs. 3, 4. 1907.

1. Bur. of Amer. Ethnol. Bul. 30, pt. 1, p. 873. 1907.

2. Historical Groups, p. 3 ff. 1905.

cf. also Engel. Musical Instruments in the South Kensington Museum, p. 9. 1874.
Mead. Musical Instruments of the Incas, pl. 5. 1903.
Fétis. Histoire de la Musique, vol. 1, p. 25.
Wilson. Prehistoric Art. Smith. Inst. An. Rept. 1896. p. 650 ff.
Wallaschek. Primitive Music, p. 90. 1903.
Brit. Museum. Handbook to the Ethnog. Coll. p. 285. 1910.
Abbott. Musical Instruments made of Bone. U. S. Geol. Survey. Rept. VII, p. 234. 1879.

Class II Wind Instruments Section A Whistles r. Vertical Flutes

graves on the Islands of San Nicholas, San Clementi, and Santa Rosa, California.

1983 BONE WHISTLE. Similar to No. 1980.
Length, 7 inches.

1984 BONE WHISTLE. Similar to No. 1980.
Length, 4½ inches.

1981 BONE WHISTLE. Similar to No. 1984.
Length, 4¾ inches.

1985 BONE WHISTLE. Similar to No. 1981. The lower end closed with asphaltum.
Length, 3½ inches.

1987 BONE WHISTLE. Similar to No. 1985.
Length, 3½ inches.

1982 BONE WHISTLE. Similar to No. 1981. Open at both ends.
Length, 3½ inches.

1986 BONE WHISTLE. Similar to No. 1982.
Length, 3 inches.

1988 BONE WHISTLE. Similar to No. 1986.
Length, 1¾ inches.

*586 DOUBLE WHISTLE. Made from the tibia of a deer. Two bones, with a single hole in the smaller end of each, forming a whistle. The bones darkened with age and crumbling on the edges. Santa Catalina, Southern California. Presented by the American Museum of Natural History, New York.
Length, 9 inches.

This specimen is one of eight found in the ancient Indian graves of Southern California. Numerous examples of single whistles have been found, but the double ones are much more rare. Further information in regard to the above specimen will be found in Prof. F. W. Putnam's Report upon the Archaeology of California, vol. 7, p.

* Placed with the prehistoric instruments of Historical Groups, p. 4, 1905.

BONE WHISTLES AND FLUTES. NORTH AND SOUTH AMERICA
PP. 111–114, 116, 214, 227, 228, 235, 236

237, of the U. S. Geographical Surveys west of 100th Meridian, under charge of Lieut. Wheeler, U. S. Army. Published by the Government, 1879.

1989 WHISTLE. Made from a bone, the surface worn by age. No holes. Found in an ancient Indian grave at Santa Barbara, California.
Length, 8¼ inches.

3666 BONE WHISTLE. Made from the wing bone of an eagle. At the lower end a pendant breath feather. The whistle is fastened to a necklace of beadwork. Family: Shoshonean. Locality: Arizona and New Mexico.
Length, 8¼ inches.
Used in the ceremonies of the Sun Dance.

2059 BONE WHISTLE. A bird bone decorated with bright feathers and bits of tin. Family: probably Siouan or Algonquian.
Length, 8¼ inches.

2760 BONE WHISTLE in G. Made from the wing bone of an eagle. The lower end closed with resin. Tribe: Oglala. Family: Siouan. Locality: Fort Yates, Standing Rock Reservation, North Dakota.
Length, 7¼ inches.
The bone whistle is used to accompany the songs of the Sun Dance of the Plains Indians. See Appendix, p. 271. The Siouan group occupied a large area in the region of the Mississippi and next to the Algonquian was the most populous family north of Mexico. The name is taken from the largest tribe, the Sioux or Dakota, and is interpreted "snake" or "enemy." See Map of Linguistic Families, p. 334. Also Bur. of Amer. Ethnol. Bul. 30, pt. 2, p. 577. 1910.

580 BONE WHISTLE in E flat. Similar to No. 2760. Tribe: Oglala. Family: Siouan. Locality: Fort Yates, Standing Rock Reservation, North Dakota.
Length, 7¼ inches.

2021 BONE WHISTLE. Lowest note, E flat. Made from a bird bone and suspended from a necklace of buckskin

Class II
Wind
Instruments
Section A
Whistles
1. Vertical
Flutes

covered with red porcupine quill. The bone is wound with split quill stained yellow. A fringe of buckskin on the end. Tribe: Arapaho. Family: Algonquian. Locality: Indian Territory.

Length, 7½ inches.

Probably used in the Sun Dance.[1] Yellow symbolizes sunlight, and fringed buckskin the rays. Bone whistles are typical of the older tribal ceremonies of the Arapaho, while wooden whistles are used in connection with the Ghost and Crow Dances.

Similar specimens in the Amer. Museum of Nat. Hist. Coll. Nos. 50–1044; 50–313. In the U. S. Nat. Museum Coll. Nos. 153,056; 153,057; 165,762.

The Arapaho are closely allied with the Cheyenne Indians. The modern habitat of both tribes is on the western edge of the Great Plains, but early in the historic period both tribes lived in the more or less forested regions of Minnesota and were agricultural rather than nomadic hunting peoples. They are connected linguistically with the Algonquian stock, but on entering the Plains adopted the habits of the many tribes of the Siouan, Caddoan, and Kiowan stocks. Being on the western frontier they have been able to preserve some of the old customs of the Plains. The Sun Dance was practised until recent times as their most spectacular ceremony.

A whistle similar to No. 2021 is described by Domenech,[2] who states: "The war-fife is shorter than the flute; it is made of the bone of the deer or the wild turkey and adorned with porcupine quills. The chiefs alone can use it. They wear it suspended from the neck under their garments and never sound it except in combat. By blowing at one end you draw from it a shrill note, which serves as the attack signal; and by blowing the other extremity, the instrument produces a softer sound, which indicates the rallying or retreat."

The Arapaho name for the eagle-bone dance whistle is *hiqun guky*.

2022 BONE WHISTLE. Lowest note, E. Similar to No. 2021. A bird bone covered with purple beadwork, edged

1. Dorsey. The Arapaho Sun Dance. Field Columbian Museum. Pub. No. 75, Anthrop. Ser. vol. IV. 1903. Also Appendix, p. 271.

2. Domenech. Seven Years' Residence in the Great Deserts of North America, p. 139.

with a band of fringed buckskin, to which a "breath-feather" is attached. Tribe: Arapaho.

Length, 7½ inches.

Kroeber[1] in his work on the Arapaho describes the whistles: "Wooden whistles are made in connection with the Ghost and Crow dances. The whistles typical of the older tribal ceremonies are of bone, often ornamented with a partial wrapping of blue beads, and usually they have no feathers other than a single projecting plume attached to them. The ghost-dance whistles are of wood, considerably larger, painted, often carved in relief or outline, and ornamented with pendant feathers at the end."

Referring to emblematic carving of the Arapaho, Kroeber further states that a cross is symbolic of the morning star, a vertical line from it representing its course as it rises. A straight line issuing from the mouth of the thunder bird represents rain; wavy lines, lightning. Of the colors used red is the blood of humanity, blue the sky, and green the earth. When black and white magpie feathers are attached to a whistle they represent clouds, and the small plumes dyed red and attached to these feathers, represent lightning. The feathers of the magpie refer to the thunder bird on account of the swift flight of this bird. The use of a primary wing-feather of this bird further refers to the flight of the thunder bird. The blowing of the whistle when it is used represents thunder.

Clark Wissler[2] states that the Dakota (Sioux) have observed that when a storm is approaching the eagle gives a peculiar shrill call not unlike the sound of the whistle. This they interpret as speaking to the thunder; consequently the feathers of this bird when attached to the whistle are supposed to put the individual also in a position to speak to the thunder. Thunder is an important deity among all Indians of the plains and is usually associated with military exploits.

The "breath feather," the bit of down or feather hung from the end of the whistle, represents a variant of incense where smoke carries the prayers of the people to the deity. This is illustrated by a myth of the Zuni in which

1. Kroeber. The Arapaho. Amer. Museum of Nat. Hist. Bul. XVIII, p. 351 ff. 1907.

2. cf. Some Protective Designs of the Dakotas. Amer. Museum of Nat. Hist. Anthrop. Papers, vol 1, pt. 2, p. 47. 1908.

Class II
Wind
Instruments
Section A
Whistles
1. Vertical
Flutes

the milky way is supposed to be down from the feathered prayer sticks offered by the people.
According to Merriam[1] "the widespread belief in the origin of people from feathers accounts for the reverence shown feathers by some of the tribes. This feeling sometimes manifests itself in a great fear or dread lest the failure to show respect for feathers or to observe certain prescribed acts in connection with the use of feather articles on ceremonious occasions be followed by illness or disaster."

2023 BONE WHISTLE. Lowest note, D. Similar to No. 2021. A bird bone covered with blue and red beads. A fringe and cord of buckskin. Four strings of buckskin wound with split quill. Tribe: Arapaho.
Length, 7¼ inches.

2630 BONE WHISTLE. Lowest note, B flat. A bird bone with a mouth or opening cut in the side three inches from the mouthpiece end. At this point of the tube a wooden plug is inserted which with a strip of sinew produces the whistle. Two bands of buckskin painted in red and green ornament the pipe. Tribe: Apache. Family: Athapascan. Locality: Texas, Arizona, and Mexico.
Length, 7¾ inches.

3675 BONE WHISTLE. Similar to No. 2630. The surface bound with split bark, the lower end closed with pitch, and the plug forming the whistle, of the same material. Family: probably Siouan or Algonquian.
Length, 6 inches.

3251 DOUBLE BONE WHISTLE. *Li-bu.* Lowest note, A. Two small bones of an eagle placed side by side and bound with cord; the surface decorated with etched arrowheads. Near the lower end, which is closed with resin, four pieces of wampum and two bits of abalone (*halistidæ*) shell hung on a piece of cord. Family: Yukian. Locality: Round Valley, Northern California.
Length, 3½ inches.
The Yukian family comprised only the Yuki, divided into

1. Merriam. The Dawn of the World, p. 84 ff. 1910.
Also McGee. Ojibwa Feather Symbolism. Amer. Anthrop. vol. 2, p. 177. 1898.
cf. similar use of the feather in Egyptian Rites of Worship of the Sun. Amer. Anthrop. vol. 7, p. 236 ff. 1894.

several tribes with different dialects. They occupied a small area in Northern California and were more warlike than most of the California tribes. In 1864 they with other tribes were brought into the Round Valley Reservation where the few remaining (numbering in 1902 about one hundred) still reside. Kroeber: Bur. of Amer. Ethnol. Bul. 30, pt. 2, p. 1008. 1910.

The Little Lake Indians of this Reservation have a double whistle of wood used in the dance. U. S. Nat. Museum Coll. No. 131,120.

The Wailaki (Athapascan) Indians of Northwest California have a similar dance whistle. Peabody Museum Coll. No. 65,538, Cambridge, Mass. Also the Concow (Athapascan) Indians of Siletz Reservation, Oregon, have one in bone. U. S. Nat. Museum Coll. No. 131,119, and another in wood, No. 131,122.

The double bone whistle is also used by the Pomo, and as well by shamans of the Shastan, a linguistic family located in Northern California. These people do not use the drum, but they have the hoof rattle, a flute, and the bone whistle. Dixon. Amer. Museum of Nat. Hist. Bul. xvii, pt. 5, p. 449 ff. 1907. cf. also Abbott. Musical Instruments made of Bone, in U. S. Geol. Sur. Rept. VII, p. 234. 1879.

1975 WHISTLE. A straight stick with cylindrical bore made by a hot iron. The upper end stained green, the lower part red and cut in grooves. A charm of red and white quill-work in the form of a beetle or spider. Tribe: Arapaho. Family: Algonquian.

Length, 10 inches.

The Piegan Blackfeet call the spider the "underground deer," *ku'a wa kos*, because of its celerity of movement; it is held in high esteem for its supposed intelligence. Among the Cheyenne and the Arapaho the same word is used to denote the "spider" and "whiteman," and in both languages this word appears to convey the idea of high intelligence.[1]

2756 WHISTLE. A tube of wood stained yellow, attached to a buckskin cord. At the upper end red bristles bound to the tube with animal sinew. At the lower end a band of

1. Grinnell. The Butterfly and the Spider among the Blackfeet. Amer. Anthrop. New Ser., vol. 1, p. 194. 1899.

Class II. Wind Instruments
Section A Whistles
1. Vertical Flutes

buckskin and three rows of blue and white beads, also a "breath feather." Family: probably Shoshonean. Length, 8 inches.

The Shoshonean family was one of the most important linguistic groups north of Mexico. It occupied a large territory between the Siouan group and the Pacific slope extending north into Montana, southeast into Texas, and west into Southern California to the coast. See Map of Linguistic Families, p. 334. Also Bur. of Amer. Ethnol. Bul. 30, pt. 2, p. 555. Wash., 1910.

3297 WHISTLE. Ceremonial pipe of the Crane Dance. A tube of wood stained green, the end carved in the form of a bird's head. The whistle is formed by a piece of split quill so placed over the opening in the side of the pipe that the current of air impinges upon its sharp edge. The opening is 9¾ inches from the mouthpiece. The quill is bound to the tube by narrow strips of animal sinew. Tribe: Oglala.[1] Family: Siouan. Locality: South Dakota. Length, 2 feet.

The Gros Ventre (Siouan) have a wooden whistle not unlike this, which is used in the Dog Dance. It is painted yellow and is two feet in length. Kroeber describes it as follows: "The end farthest from the mouth is cut off diagonally almost to a point. Here is hung an eagle feather, its base covered with red cloth. Along the middle portion of the whistle are laid two strips of red cloth, held by two sinew bands and by a long doubly wound thong wrapped with white porcupine-quills. These red strips are not quite wide enough to entirely cover the whistle. The two ends of both pieces hang free. Where the cloth ends on the whistle, toward the mouthpiece, two magpie feathers are laid along the wood, nearly to the end, their bases being held by these wrappings."[2] cf. note to No. 2022, p. 114.

2058 WHISTLE. Similar to No. 3297. A tube of wood carved at the lower end to represent a bird's head with open beak. The opening in the side of the tube is 7 inches from

1. The Oglala, the largest division of the Teton-Sioux, participated under the leadership of Sitting Bull, in the massacre of General Custer and his men in 1876.

2. Kroeber. Ethnology of the Gros Ventre. Amer. Museum of Nat. Hist. Anthrop. Papers, vol. 1, pt. 4, p. 258. 1908.

ALTAR OF THE DRAB FLUTE SOCIETY. HOPI INDIANS
REPRODUCED BY COURTESY OF THE FIELD MUSEUM OF NATURAL HISTORY, CHICAGO

the mouthpiece. The surface is bound with grass stained red, the lower part ornamented with buckskin bands wound with porcupine quill and a fringe of tin cones and feathers. A broad band of plaited sweet grass at the back. Family: probably Siouan.
Length, 2 feet 2½ inches.

2811 WHISTLE. Similar to No. 3297. A tube of wood originally stained pink and bound in several places with strips of sinew. On the lower end the skin of the head and neck of a crane is drawn over the tube and to this is attached a fetish made of a piece of calico tied with a cord of buckskin enclosing some small pebbles and crumbling bits of wood. The mouth or opening of the tube is 8¾ inches from the mouthpiece. Family: probably Siouan.
Length, 2 feet 4 inches.

A similar specimen in the U. S. Nat. Museum Coll. No. 204,563.

576 WHISTLE. Similar to No. 3297. A tube of hard wood, the lower end cut in two prongs suggesting the open beak of a bird. A square opening cut in the side of the tube 7 inches from the mouthpiece, has over its upper and lower edges a slip of wood bound to the tube with sinew. The pipe is wound with cigar ribbon with pendant thimbles on a buckskin cord. Tribe: Winnebago. Family: Siouan.
Locality: Michigan.
Length, 2 feet 8½ inches.

These pipes are also found among the Muskhogean, Chocktaw, Seminole, and other tribes of the southwest. cf. No. 53,095, Peabody Museum Coll. Cambridge, Mass. Illustrated in Catlin, vol. 1, pl. 101½, fig. F, by whom it is described on p. 242 of the same volume, as the "mystery whistle."

3521 WHISTLE. *He-ha-kha-ʒo-ʒo* or *hna-hna-ʒo-ʒo.* Similar to No. 3297. A tube of wood cut in prongs at the end and decorated with incised serpentine lines 9¾ inches from the mouthpiece, which is of red pipestone (catlinite)[1]; a slip of birch bark is bound over the opening

1. Catlinite—a red claystone found in southwestern Minnesota. When freshly quarried, it is easily carved and has long been used by the Indians in the manufacture of their sacred pipes. This stone was first brought to the attention of mineralogists by George Catlin, the noted student and

Class II Wind Instruments Section A Whistles 1. Vertical Flutes

in the side of the pipe. Tribe: Winnebago. Family: Siouan. Locality: Canosia, Minnesota.
Length, 2 feet 10 inches.

1735 WHISTLE. Bird call in black pottery in the form of a small bird. A large hole in the back and two small ones at one side probably used to hold a cord. From an Indian grave in Southern California.
Length, 2 inches.

3122 WHISTLE. A small pear-shaped form in black pottery.
Length, 1¼ inches.

3314 VERTICAL FLUTE. A simple tube made from the wood of the yucca plant, the surface decorated with burnt lines. Four finger-holes. Tribe: Pomo. Family: Kulanapan. Locality: Southern California.
Length, 11 inches.

The Pomo Indians are of the linguistic stock technically known as Kulanapan, living in parts of Sonoma, Lake Mendocino, Colusa, and Glenn Co., California. Bur. of Amer. Ethnol. Bul. 30, pt. 2, p. 276. Wash., 1910.

2757 VERTICAL FLUTE. Made from a tube of metal. Seven-eighths of an inch at the lower end is cut away on one side and the edge serrated. Surface ornamented with etched lines. Tribe: Apache. Family: Athapascan. Locality: Arizona and New Mexico.
Length, 1 foot 8 inches.

A similar specimen in the U. S. Nat. Museum Coll. No. 200,564. In some instances gun barrels have been employed for this purpose.

The traditional flute of the Navaho, from the same locality, the *dilni* or *adidlol*,[1] was made from the stalk of the sun-flower (*Helianthus annuus*) and had four finger-holes. In the old days the women grinding corn were accompanied by the drum and flute. This tribe has two

painter of Indian life, whose name it bears. Bur. of Amer. Ethnol. Bul. 30, pt. 1, p. 217. Wash., 1907.
Catlin. Manners, Customs and Conditions of the North American Indians, vol. 2, p. 205. 1841.

1. Ethnog. Dict. p. 511. 1910.

FLUTE CEREMONY AT ORAIBI

REPRODUCED BY COURTESY OF THE FIELD MUSEUM OF NATURAL HISTORY

sacred flutes called *shoh-k'on-ne* and *tcha-he-he-lon-ne*, the latter being described as a "warbling flute." [1]

Another tribe, the Takelma (Takilman) of Southern Oregon, made a flute *xdeit* from the dry reed of the wild parsnip (*Peucedanum pastinaca sativum*). This was used to accompany love ditties and seems to have been the only instrument used by these people, the drum, according to Sapir,[2] being absolutely unknown to them.

3584 VERTICAL FLUTE. A tube of cane, the surface etched with line decoration symbolic of the morning star and lightning, interspersed with dots; near the mouthpiece two American flags. There are four finger-holes placed midway between the two ends of the pipe. Tribe: Papago. Family: Piman. Locality: Arizona and Mexico.
Length, 2 feet.

The Piman family, while considered a distinct linguistic stock, is a northern branch of the Aztec group. It was formerly represented in the United States by three tribes: the Piman, Sobaipuri, and Papago. The Sobaipuri are no longer known and the two other tribes are located in Mexico and Arizona. Bur. of Amer. Ethnol. Bul. 30, pt. 2, p. 253. Wash. 1910. Powell. Bur. of Ethnol. 12th An. Rept. p. 98. 1891–2.

3408 VERTICAL FLUTE. *Lain-ah.* A tube of wood slightly conical made by boring through the center of a stick with a hot iron. Five finger-holes. Tribe: Hopi. Family: Shoshonean. Locality: Arizona. Reproduction. Original in the U. S. Nat. Museum Coll.
Length, 1 foot 11¼ inches.

The Hopi, sometimes called Moki, are one of the tribes comprising the Pueblo group of the Tanoan, Keresan (Queres), Zunian, and Shoshonean linguistic families located in New Mexico and Arizona. These tribes differ from other North American Indians in their mode of life, occupying permanent dwellings of stone or adobe instead of the portable wigwam or tepee used by the nomadic tribes. The houses are built in compact groups called by the Spaniards pueblos, which name has also been applied

1. Stevenson. Bur. Ethnol. 3rd An. Rept. 1881–1882, p. 583. Wash. 1884.

2. Sapir. Notes on the Takelma Indians of Southern Oregon. Amer. Anthrop. New Ser., vol. 9, p. 273. 1907.

Class II
Wind
Instruments
Section A
Whistles
1. Vertical
Flutes

to the inhabitants of these settlements. The Hopi occupy the seven villages of Walpi, Sichomovi, Mishongnovi, Shipaulovi, Shongopovi, Oraibi, and Hano in northeastern Arizona. The Snake and Flute ceremonies of these Indians are described in the Appendix, p. 273 ff.

The Hopi have a sacred warbling flute made of cane with four small finger-holes and a flaring gourd bell called *lena-ka-chin-tihu;* a similar flute with the Zuni is called *tcha-he-he-lon-ne* (U. S. Nat. Museum Coll. No. 69,312), while another sacred flute from the same tribe, 26 inches long, is called *shoh-k'on-ne* (U. S. Nat. Museum Coll. No. 69,467). These are probably the flutes mentioned by Ives in his report on the Zuni of the Colorado River,[1] of which he says: "I noticed among other things, a reed musical instrument with a bell-shaped end like a clarinet." In the great snake drama performed at Walpi,[2] a form of "gourd trumpet" is employed to simulate the "roar" of the serpents.

In the Flute ceremony at Walpi a peculiar form of rattle, the *pa-a-ya*, illustrated and described by Fewkes[3] as a "moisture rattle," is employed to accompany the flute melodies. This is made of three slender wands bound together at one end, one of which is crooked and carries a bunch of pendant shells, a second has four gourd discs, said to typify the four underworlds, placed at intervals one above the other, while the third has eagle-wing feathers and "hooks." This rattle is used by the flute priests through the greater part of the ceremony. A "shell rattle," the *mo-si'li-li*,[4] is also mentioned.

The bird-bone whistle, the *bitci*,[5] of this ceremony is sounded in a bowl of water, producing a bird-like effect, and a flute, the *pa-len-a*,[6] is employed with the whizzer or bull-

1. Ives. Report upon the Colorado River of the West, p. 121. Wash. Gov. Print. Office, 1861.

2. cf. Fewkes. A Theatrical Performance at Walpi. Wash. Acad. of Science, vol. 2, p. 605. 1900.
Also Amer. Anthrop. New Ser. vol. 11, p. 83. 1909.

3. cf. Fewkes. Flute Observances at Walpi. Jour. Amer. Folklore, vol. 7, p. 265, pl. 2, fig. 3. 1894.

4. Idem. p. 286.

5. The Navaho have a whistle fitted with a ribbon reed called *beetsos* or *atsa'ʒol*, the Zuni name for which is *bitsi*.

6. Idem. p. 286.

roarer, the *u-muk-pi*,[1] at the ceremony held at the spring on the eighth day.

3119 VERTICAL FLUTE. Mystery flute. Lowest note, F sharp. A tube of cane, the surface decorated with circles and dots and the zigzag lines emblematic of lightning. At the central node of the tube two holes are cut one above the other; over the upper one of these there is a binding of paper held in place by vegetable fibre. Three finger-holes near the lower end. Tribe: Papago. Family: Piman, Locality: Southern Arizona.

Length, 2 feet 3½ inches.

Similar specimens in the U. S. Nat. Museum Coll. Nos. 218,053; 218,054; 218,055.

cf. Cane flageolet of the San Carlos Apache, Arizona. Amer. Anthrop., vol. 7, pl. XXXI. 1905.

In the Museum of the University of Pennsylvania may be seen some very fine examples of old Indian flutes and rattles that form part of the "sacred bundles" of the Winnebago Indians of Nebraska and Wisconsin, the Iowa Indians, and some of the tribes of Oklahoma. This collection is rich in ceremonial objects.

The Papago have the flute, drum, the notched stick, and rattle; the latter, the *sah-we-goot*, a gourd rattle, employed to mark the rhythm of the dance, is of the usual gourd type carried in the hand, or the turtle shell and hoof form worn below the knee. The flute is of cane, in most cases decorated in pictograph, and accompanies the drum. The drum is of peculiar construction. The shell consists of the rim of a cheese box; the two heads are of rawhide, each strung on a circular rim of mesquite wood; these are stretched over the shell and a thong passed back and forth over the mesquite rings and fastened. The desired pitch for the drum is acquired by warming each head separately over a small heap of coals until in harmony with the flute. cf. U. S. Nat. Museum Catalogue.

The Papago are a Piman tribe located in Southern Arizona. They are an agricultural people, the women being expert basket makers. Their dwellings consist of a framework of saplings thatched with grass or leafy shrubs. Bur. of Amer. Ethnol. Bul. 30, pt. 2, p. 200. Wash. 1910.

3181 VERTICAL FLUTE. Mystery flute. Lowest note, A. Similar to No. 3119. The surface decorated with etched

1. Idem. p. 269.

Class II Wind Instruments Section A Whistles 1. Vertical Flutes

designs; arrow-heads, circles, three figures, a serpent, and an eagle. Three finger-holes. Tribe: Papago. Locality: Salt River Reservation, Maricopa County, Arizona.
Length, 2 feet 1½ inches.

573 VERTICAL FLUTE. Mystery flute. Similar to No. 3119. Surface decorated with arrow-heads and stars. The binding over the central hole missing. Three finger-holes. Tribe: Apache. Family: Athapascan. Locality: Arizona and New Mexico.
Length, 1 foot 2½ inches.

2889 VERTICAL FLUTE. Mystery flute. Lowest note, G sharp. Similar to No. 573. The binding over the central hole, a strip of fringed buckskin. Three finger-holes. Tribe: Apache.
Length, 1 foot 2½ inches.

575 VERTICAL FLUTE. Lowest note, F sharp. A tube of hard wood, the upper end whitened, the lower end stained red. Below the mouthpiece end a narrow slit partially covered with a binding of buckskin. Six finger-holes midway between the two ends and an additional hole near the lower end. Charm of abalone shell. Tribe: probably Apache.
Length, 2 feet 1½ inches.

1385 VERTICAL FLUTE. Lowest note, A. Similar to No. 575. A tube of wood painted black, with six finger-holes, the binding over the central hole a band of leather. A metal band at the top. Tribe: probably Apache.
Length, 21 inches.

3598 BONE FLUTE, with whistle head and two finger-holes. An arrow below the finger-hole. Family: possibly Siouan.
Length, 5½ inches.

This specimen differs from the ordinary bone flute used in the ceremonials in that it has a whistle head similar to the Indian flageolet and also has two finger-holes.

3118 WHISTLE FLUTE. *Que-goot.* A tube of cane in three sections bound together with sinew. The upper end beak-shaped and stopped with a wooden plug. Two finger-holes and a thumb-hole in the third or lower section. Tribe: Papago. Family: Piman. Locality: Gila Bend, Maricopa

FLUTES. INDIANS OF THE UNITED STATES
PP. 125, 126

County, Southern Arizona. Reproduction. Original in the U. S. Nat. Museum Coll. No. 174,518.
Length, 1 foot 10 inches.

1960 WHISTLE FLUTE. A tube of cane in sections. Similar to No. 3118. Tribe: Papago. Family: Piman. Locality: Southern Arizona.
Length, 1 foot 5½ inches.

579 VERTICAL FLUTE. Lowest note, A. A tube of wood split and hollowed out, the sides cemented with resin and bound together with a cord of buckskin. The lower edge of the tube serrated. The whistle is produced by a metal lip, a piece of tin placed over an opening in the tube just below the mouthpiece; this is held in place by a carved block fastened to the tube by a cord of buckskin. Six finger-holes. The surface of the wood is stained red. A small notched stick and a small medicine pouch in beadwork are tied to the side of the tube. Tribe: Chippewa or Ojibwa.
Length, 1 foot 5 inches.

This is a typical Algonquian flageolet described by Schoolcraft[1] as the *pib-be-gwun*. Variants of this spelling are *bib-e-gwon* and *pipigwon*. Siouan flutes of this type were usually made in one piece, not like those of the Algon-

1. Schoolcraft, writing of Indian music, songs, and poetry, refers to the musical instruments of the North American tribes as follows: "Their instruments of music are few and simple. The only wind instrument existing among them is the *pibbegwon*, a kind of flute, resembling in simplicity, the Arcadian pipe. It is commonly made of two semi-cylindrical pieces of cedar, united with fish glue, and having a snake skin, in a wet state, drawn tightly over it, to prevent its cracking. The holes are eight in number, and are perforated by means of a bit of heated iron. It is blown like the flageolet and has a similar orifice or mouthpiece.
"The *taywacyun* (struck-sound instrument) is a tambourine, or one-headed drum, and is made by adjusting a skin to one end of the section of a moderate sized hollow tree. When a heavier sound is required, a tree of larger circumference is chosen, and both ends closed with skins. The latter is called *mittigwukeek*, i. e., wood-kettle drum, and is appropriately used in religious ceremonies, but is not perhaps confined to this occasion.
"To these may be added a fourth instrument, called the *shesbegwun*, or rattle, which is constructed in various ways, according to the purpose or means of the maker. Sometimes it is made of animal bladder, from which the name is derived, sometimes of a wild gourd; in others, by attaching the dried hoofs of the deer to a stick. This instrument is employed both to mark time, and to produce variety in sound." The American Indians, pp. 222, 223. cf. also idem. History of the Indian Tribes. vol. 2, p. 514, pl. 75.

Class II
Wind
Instruments
Section A
Whistles
1. Vertical
Flutes

quian in which the tube was split lengthwise and hollowed out as in the present specimen. cf. Note p. 268.
The Chippewa are one of the largest tribes north of Mexico scattered over an area of a thousand miles, extending from east to west along the shores of Lake Huron and Lake Superior across Minnesota to Turtle Mountains, North Dakota. The most powerful organization of the tribe was the Medewiwin or grand Medicine Society. James Mooney—Cyrus Thomas. Bur. Amer. Ethnol. Bul. 30, pt. 1, p. 277. Also Frances Densmore. Bur. Amer. Ethnol. Bul. 45. Chippewa Music.

1976 VERTICAL FLUTE. Similar to No. 579, but made from a stalk of the yucca plant stained yellow and pink. The stick is hollowed out, the two parts bound together with strips of buckskin. Tribe: Apache.
Length, 1 foot 5 inches.

3180 VERTICAL FLUTE. Similar to No. 579. Made from the stalk of the yucca plant split longitudinally, the lower edge serrated and the surface ornamented with burnt lines. Six finger-holes. Tribe: probably Apache.
Length, 1 foot 6 inches.

3541 VERTICAL FLUTE. *Ya-ah-ga-da-wasta.* Lowest note, A. A stick of cedar wood split, the center scraped out and the two halves neatly joined. Six finger-holes. Tribe: Seneca. Family: Iroquoian. Locality: Tonawanda, Erie County, New York State.
Length, 1 foot 5¼ inches.
This instrument was collected by Mr. M. R. Harrington, who has lived among the Seneca, and who states that the flute is rarely used by this tribe; he has found but three and they were all old specimens. They were used for serenading. There is a similar flute in the U. S. Nat. Museum.
The Seneca (Oneida) were once a prominent and influential tribe of the Iroquois located in Central New York; later the greater number migrated westward toward Lake Erie and south into Pennsylvania.

3371 VERTICAL FLUTE. Similar in form to No. 3541, but cut from a block of red pipestone (Catlinite). An ornamental

band of zinc work inlaid below the mouthpiece. Six finger-holes. Family: probably Siouan.
Length, 1 foot 7¾ inches.

See note to No. 3521.

The Siouan name for this instrument is *chotonka-chanta-ki-yapi*.

574 VERTICAL FLUTE. A tube of hard wood, the surface stained dark red and ornamented with incised lines in pink. There is the usual carved block that holds the metal lip in position. Six finger-holes. Tribe: Cheyenne, or Arapaho of the Southern Plains.
Length, 1 foot 11 inches.

This and the following flutes, Nos. 577, 2629, 3298, have the carved block and six finger-holes, but the construction differs in that the tube is not split as in the case of No. 597, but is bored with a hot iron. cf. Brown. Musical Instruments of North America. pl. 3, fig. 14.

577 VERTICAL FLUTE. *Chotonka-chanta-ki-yapi*. Lowest note, G. Similar to No. 574. Six finger-holes and an additional hole near the lower end. Family: Siouan.
Length, 1 foot 11¼ inches.

cf. Brown. Musical Instruments of North Amer. pl. 2, fig. 10.

2629 VERTICAL FLUTE. Lowest note, G. A tube of soft wood stained pink and ornamented with feathers and incised bands; the lower end carved in the form of a bird's head, the beak darkened by burning, the eyes two brass tacks. The mouthpiece a metal tube. Six finger-holes. Tribe: Oglala. Family: Siouan. Locality: South Dakota.
Length, 2 feet.

3298 VERTICAL FLUTE. Lowest note, G. Similar to No. 2629, but larger. The block in this specimen resembles a rabbit. Tribe: Oglala.
Length, 2 feet 3 inches.

2. Transverse Flutes

578 TRANSVERSE FLUTE. Cylindrical tube of wood split longitudinally and cemented at the sides. The surface stained green. Five finger-holes. Tribe: probably Apache. Family: Athapascan. Locality: Arizona and New Mexico.
Length, 1 foot 7 inches.

The side-blown flute, which rarely appears, is doubtless, like the Apache fiddle, the result of external influence.

Section B
Reeds
Division 1
Beating Reeds
a. Single-beating Reeds

617 REED PIPE. Moose call. A cone-shaped piece o wood hollowed out and fitted with a single-beating reed o metal placed against a narrow wooden tongue inserted ir the top; this is enclosed within a conical cover open at th small end through which the reed is sounded.

Length, 4½ inches.

Similar specimens from the Alibamu, Sauks and Fox, anc Iroquois Indians are shown in the collections of the Museum of the University of Pennsylvania, Philadelphia, Pa.

3668 REED PIPE. Moose Call. A cone-shaped piece of wood hollowed out and fitted with a single beating reed similar to No. 617. A conical cover, open at the smaller end, through which the reed is sounded.

Length, 4½ inches.

A variant of the beating reed is found in the Siouan whistle (No. 3521) described on page 119, in which a slip of bark, bound to the tube just above the vent, vibrates with the escaping air.

696 MOOSE CALL.[1] A conical form of birch bark. Tribe: Micmac. Family: Algonquian. Locality: Restigouche, New Brunswick, Canada.

Length, 1 foot 8 inches.

An important Algonquian tribe originally located along the northeast coast of Nova Scotia, Cape Breton, and Prince Edward Island. While the Indians of the Northwest Coast employ cedar bark in various ways for many of their utensils, these people use birch bark, which abounds in this region, ornamenting it with porcupine quill decoration. For this reason they have sometimes been referred to as "bark" and "porcupine" Indians. Bur. Amer. Ethnol. Bul. 30, pt. 1, p. 858. Wash. 1907.

There are several of these moose calls in the Indian collection of the Museum of the Pennsylvania University, Philadelphia. One (2/8184) from the Malecite (Micmac "Malisit" of the Abnaki group Algonquian stock), another (2/5853) from the Penobscot Indians, a tribe sometimes included in the Malecite group.

1. Of the speaking trumpet type (Class V. Musical Accessories), but placed here for convenience.

WHISTLES AND FLUTES. INDIANS OF THE UNITED STATES
PP. 119, 124, 125, 127

CLASS III VIBRATING MEMBRANES

Division 1 Struck Section A Drums 1. With one head

633 DRUM. A circular frame of wood with skin stretched over one side, the surface colored with bright pigment ornamented in the center with a Maltese cross in yellow outlined in red and green; the centers of the vertical arms are painted red, those of the horizontal, green. The four arms of the cross branch out from a small central circle painted yellow. Tribe: Probably Arapaho. Locality: White Mt. Reservation, Arizona.

Diameter, 10½ inches. Depth, 1¾ inches.

This type of cross with serrated edges decorates an Apache "mantle of invisibility" described by Mallery.[1] This charmed covering was supposed to enable the wearer to pass in safety through the enemy's country. The symbol is interpreted as the cross of the winds of the four cardinal points, the central circle typifying the universe.

Among the Dakota the dragonfly forewarns the native of the approach of danger, and its symbol, a cross, is a favorite form of decoration. With the Blackfeet[2] the butterfly or moth brings sleep and dreams and when its symbol, the Greek cross, appears, it indicates that the decorative scheme employed was suggested to the owner in a dream.

562 DRUM. A deep circular frame of wood with a sheepskin head; the edge of the skin is stretched into thongs that unite and fasten at the back. There is a red circle in the center of the head and on the edge a yellow band. Family: probably Shoshonean.

Diameter, 1 foot 2½ inches. Depth, 9¾ inches.

Two kinds of drums (*wi-towe*) are in common use among the Shoshonean of today. The small hand drum of the Plains is about 35 cm. in diameter, covered on one side with horse- or cow-hide, on the other side with intersecting or netted thongs. Lowie, Robert H. The Northern Shoshonean. Amer. Museum Nat. Hist., Anthrop. Papers, vol. 2. pt. 2, p. 216. 1909.

326 DRUM. A shallow circular frame of wood with skin stretched over one side. The head is divided into two sec-

Picture Writing of the American Indians. Bur. of Ethnol. 10th An. ept. 1888–1889, p. 503, pl. XXXIII. Wash. 1893.

Grinnell. The Butterfly and the Spider among the Blackfeet. Amer. nthrop. New Ser. vol. 1, p. 194. 1899.

Class III
Vibrating
Membranes
Division 1
Struck
Section A
Drums
1. With
one head

tions, the smaller colored with yellow ochre, the larger wit blue; on the blue ground there is a yellow crescent. Siouan The drum bears the inscription: Made by Thunder Ell 1904.

Diameter, 1 foot 2¼ inches. Depth, 4½ inches.

Writing of Omaha (Siouan) music Miss Fletcher[1] states: "The instruments used to accompany the voice are th drum, the rattle, and the whistle. The drum is of varie form and capacity, and is played in different ways accord ing to the character of the song.

"The small drum, about the size of, and similar in shap to the tambourine, is used in the Mystery and Drean songs. It is beaten in tremolo by the fingers or a smal reed.

"The large drum was formerly made from the section o a tree, hollowed out, over the open end of which a skin i stretched. The drum was tuned by partly filling it with water kept sweet by charcoal, the skin being moistened stretched, and dried to the desired tone. Drums of this kind are now almost unknown; a keg has been substituted for the hollowed section of a tree, and this sort o drum is used in many of the religious ceremonies. Large flat drums were constructed by stretching a calfskin over a hoop of wythes; these drums supported by four sticks driven into the ground were beaten with sticks muffled with leather."

In some unpublished notes on Indian musical instruments Robert Ormsby Sweeny[2] mentions three different drums used by the Sioux: the *chan-changa-ẓuga*, the war drum made of a hollowed log, sometimes of a powder can, with skin stretched over the open end and usually decorated in black; the *chan-changa-wipoya-s'a*, the ceremonial drum used by the medicine men and conjurers, a drum with two heads of skin stretched over a narrow circular frame of wood and decorated with mythical figures; and the *chan-caa ga-okowan*, the song drum of everyday use.

The usual type found among the Plains Indians is made by stretching wet skin over a circular wooden frame; the edges meeting in the back form a handle. The skin is secured to the frame by wooden pegs; in shrinking during the drying process it becomes so tight that it remains in

1. A Study of Omaha Music, p. 54.

2. Brown. Musical Instruments and their Homes, p. 305 ff. Also Sweeny. Mss. Notes.

tension for years. When the drum is in use, the tension may be increased by heating the skin over a fire.
Siouan names for drums, furnished by Mr. E. H. Hawley of the National Museum, Washington, D. C., are: *koka cancega* and *walega*, drums with one head; *waken-chan-cha-gha* and *tah'ca*, drums with two heads. Catlin[1] mentions the name *chon-che-a-ha*. The same author gives the following tribal names for drums and rattles: Drum: Blackfoot, *ogh-tum*; Mandan, *bereck hah;* Tuskarora, *ye nuf hesse*. Rattle: Mandan, *eeh-na-de;* Sioux, *waga-moo;* Tuskarora, *wuntits u runtha*.

675 DRUM. A wooden frame similar to preceding. The single head is decorated with symbolic emblems in dull blue, green, and pink. In the center a four-pointed star, the sign of the four directions; between its points are four geometric figures similar to those found in the sand paintings of the Navahos. This group is surrounded by a circle with occasional branching leaves and feathers, and at one side there is a bird. Tribe: Apache.
Diameter, 12½ inches. Depth, 3½ inches.
Harrington,[2] in his description of the Devil Dance of the Apache at the Fort Sill reservation in Oklahoma, refers to the use of the primitive cowhide drum in marking the rhythm of the dance, the Indians squatting about it and beating it with stout sticks. cf. Note 2, p. 134.

560 DRUM. Circular form with skin stretched over one side of the wooden frame. The membrane is held in place by wooden pegs inserted in the rim, its edges stretched and drawn in thongs that meet at the back and serve as a handle The head is decorated with the drawing of a buffalo, in black.
Family: Siouan.
Diameter, 1 foot 3½ inches. Depth, 3½ inches.

588 DRUM. A circular frame of wood, with skin stretched over one side and fastened around the edge with tacks. On the inside a circle with radiating lines in red.
Diameter, 1 foot 4½ inches. Depth, 2¼ inches.

. Catlin. The Manners, Customs, and Conditions of the North American ndians, vol. 2, p. 262.

. Harrington, M. R. University of Pennsylvania. The Museum Journal, ol. 3, No. 1, p. 6, 1912.

Class III Vibrating Membranes Division I Struck Section A Drums 1. With one head

2795 DRUM. A circular frame of wood with skin stretch over one side. The head is decorated with figures and bir in red, two warriors, one holding a bird, and between the two birds. In the center a small disc of red.
Diameter, 12 inches. Depth 2½ inches.

2628 BASKET DRUM. *Tsa yanshtqi* or *Tsa yasetqi.* shallow circular basket of woven willow with a geometr design worked in a darker shade. Tribe: Navaho. Localit New Mexico and Arizona.
Diameter, 1 foot 2½ inches.

The ceremonial drumstick made of yucca palm leaves called *tsa beyikhad.* The Hopi name for the basket drur is *la-la-kanti.*

Dr. Washington Matthews[1] in an article on the baske drum of the Navaho describes its use as follows: "Th most important use of the basket is as a drum. In non of the ancient Navaho rites is a regular drum or tomtor employed. The inverted basket serves the purpose c one, and the way in which it is used for this simple objec is rendered devious and difficult by ceremonious observ ances. To illustrate, let me describe a few of these observ ances belonging to the ceremony of the night dance. Thi ceremony lasts nine nights and nine days. During th first four nights song is accompanied only by the rattle During the last five nights, noises are elicited from th basket drum by means of the yucca drumstick. Thi drum is beaten only on the western side of the lodge. For four of these five nights the following methods ar pursued: a small Navaho blanket is laid on the ground its longer dimensions extending east and west. An incom plete circle of meal, open in the east, of the diameter o the basket, is traced on the blanket near its eastern end A cross in meal, its ends touching the circle near the car dinal points, is then described within the circle. In making this cross the line is first drawn from the east to the west and then a line is drawn from south to north. Meal is then applied to the rim of the upturned basket so as to form an incomplete circle with its opening in the east. A cross, similar to that on the blanket, is drawn in meal on the concavity of the basket, the east and west line of which

1. Matthews. Amer. Anthrop. vol. 7, p. 202. 1894.

2. The enclosure, usually fenced in by boughs, in which the ceremonies are held.

cross must pass directly through the hiatus in the ornamental band. The basket is then inverted on the blanket in such a manner that the figures in the meal on the one shall correspond in position to those on the other. The western half of the blanket is then folded over the convexity of the basket and the musicians are ready to begin; but before they begin to beat time to a song they tip the basket with the drumstick at the four cardinal points in the order of east, south, west, and north. The Navahos say: 'We turn down the basket' when they refer to the commencement of songs in which the basket drum is used, and 'we turn up the basket' when they refer to the ending of the songs for the night. On the last night the basket is turned down with much the same observances as on the previous nights, but the openings in the ornamental bands and in the circles of the meal are turned to the west instead of to the east, and the eastern half of the blanket is folded over the convexity of the basket. There are songs for turning up and for turning down the basket, and there are certain words in these songs at which the shaman prepares to turn up the basket by putting his hand under its eastern rim, and other words at which he does the turning. For four nights, when the basket is turned down, the eastern part is laid on the outstretched blanket first and it is inverted toward the west. On the fifth night it is inverted in the opposite direction. When it is turned up it is always lifted first at the eastern edge. As it is raised, an imaginary something is blown toward the east, in the direction of the smoke-hole of the lodge, and when it is completely turned up hands are waved in the same direction to drive out the evil influences which the sacred songs have collected and imprisoned under the basket. . . . . The basket is given to the shaman when the rites are done. He must not keep it, but must give it away, and he must be careful never to eat out of it."

One of the sticks employed with this drum is of especial interest, it being used only with the night dance. A fresh one is made for each ceremony, after which it is destroyed and the fragments deposited with prayer and ceremony in the fork of a cedar tree or some other secure place; in this way the soul of the drumstick is released and its substance sacrificed to the gods. It is made from the leaves of *yucca baccata* folded and wrapped with split leaves, which are

Class III
Vibrating
Membranes
Division I
Struck
Section A
Drums
1. With
one head

gathered with much ceremony as regards the points compass, and on the inside are grains of corn. The dru stick is buried in moist earth each day until it is neec for the night ceremonials; this preserves it, as otherw it would soon become dry and shriveled.

The basket drum was also used by the Navaho in th medicine dances, one of which is described by Fra Russell[1] as follows: "An old buffalo hide was spre upon the dry painting (sand painting or altar on wh the prayer meal was offered) and the sacred basket, wh ornamented with red butterflies, was inverted on this o a hole in the center of the painted space. The hide w then doubled over this and the edges held down by t feet of the men sitting around it. Two notched stic were placed upon the basket drum,[2] a black one on t east and a white one on the west side. The sticks w laid so that one was resting upon the drum and the oth on the ground. A tarsal bone of a deer was rubbed acr the notches, at the sound of which the young women beg to dance."

In the Pan-Neech, the harvest or corn festival of the Pi and Maricopa Indians described by Brown,[3] three musicia "beat drums and three rasped with bones the bottoms upturned shallow baskets upon which had been spre a layer of wax, an exudation from the mesquite." The tribes also use cottonwood drums with heads of tann deerskin.

The Indians of the Rio de Sonora use the basket drum accompany the Deer Dance which is still held occasional In this dance "there is but one performer, who wears deer mask with its antlers; he does the jumping a high stepping called forth by the rôle he has to perfor and he does it to the tune of a peculiar drum, consisti

1. cf. Russell. An Apache Medicine Dance. Amer. Anthrop. vol. p. 369 ff. 1898.

2. In the Museum of the University of Pennsylvania there is an interesti drum (No. 21/087) used in the annual ceremony at the Big House of t Delaware Indians of Canada and Oklahoma. This is made of deersk folded into a roll about twenty-seven inches in length wrapped about w a thong of leather. Accompanying it are two flat wooden drumsticks, t broader ends cut in prongs, each ornamented with a rudely carved he one representing the female and the other the male element. cf. also n to No. 3540, p. 157.

3. Brown. A Pima-Maricopa Ceremony. Amer. Anthrop. New Ser. v 8, p. 688. 1906.

of a 'Corita' or impermeable basket (such as are made by the Papagos) filled with water, in which an earthen bowl is placed upside down. The rapping of a stick on this inverted bowl, floating as it were on the liquid, produces the desired rhythmic noise."[1]

3142 DRUM. *Asa'dad'estl'o.* A jug of brown earthenware, with a handle at one side, decorated with a rudely drawn serpent.[2] The membrane stretched over the open top, tied down with a thong of buckskin. Tribe: Navaho.

Diameter, 7¼ inches. Depth, 11 inches.

The tribal name of the drumstick for this drum is *asa' beltqaẓhi.*[3] Many early writers mention the use of earthen vessels for drums. Parchment or buckskin was stretched over the mouths of large pots, and this beaten with sticks, furnished the music for dances and ceremonies and noise for the gratification of savage taste. One of the earliest references to these drums is found in the works of Captain John Smith,[4] who describes drums of "skin stretched over an earthenware pot half full of water." This is quoted by Beverley in writing of the Indians of Virginia in 1705[5] and Brickell in a work on the Indians of North Carolina (1737) describes the same drum with a head of deerskin

1. Bandelier. Papers of the Archaeological Institute of America. Amer. Ser. vol. 3, pt. 1, p. 239. 1890.

2. The snake is regarded among the Hopi and other Indian tribes as the guardian of the springs. "Like the frog this animal has come to be an emblem of water, and naturally is used as a symbol of the same in rain or water ceremonials. The sinuous motions of this animal recall the lightning which accompanies the rain, and a zigzag line is used to designate both. The great plumed serpent, *Kol-o-wis-si* of the Zunians, lives in the water; indeed, the idea of a serpent creating a sacred spring is so widely spread in the mythology of primitive peoples that it may be looked upon as a fundamental principle in many mythological systems. To kill a snake means, in the Hopi conception, to destroy a guardian of some water source or spring. Conversely, to propitiate him is to bless with abundant water. As the snake is a symbol of water, pictures of this animal necessarily find appropriate place in rain or water ceremonials."
Fewkes. The Meaning of the Moki Snake Dance. In Journal of Amer. Folk-Lore, vol. 4, p. 131, 1891.
Peet. Was the Serpent Symbol Aboriginal? In Amer. Antiquarian, vol. 16, p. 15, 1894.
Holmes. Ancient Pottery. Bur. of Ethnol. 4th An. Rept. 1882–1883, p. 402. Wash. 1886.

3. Ethnologic Dictionary of the Navaho Language, pp. 289, 291.

4. Smith, Capt. John. His Works ed. by Edward Arber.

5. Beverley. The History of Virginia, book 3, p. 193.

Class III
Vibrating
Membranes
Division 1
Struck
Section A
Drums
1. With
one head

which was beaten with one stick.[1] Lawson[2] also mentions the fact that these Indians had a drum made of an earthen porridge pot with a deerskin head, and Lafitau[2] refers to their use among the Iroquois. Joutel,[2] who wrote of the funeral ceremonies of the southern Indians, is credited with the following statement: "Dancers tie calabashes or gourds about their bodies with some Indian wheat in them, to rattle and make a noise, and some of them have a drum, made of a great earthen pot, on which they extend a wild goat's skin, and beat thereon with one stick, like our tabors."

And again Butel-Dumont,[2] referring to the Louisiana Indians, states: "The troop sets out on the march, having at its head the cleverest among them, who carries the calumet (pipe), and as they approach the village all begin to sing and dance. One of them carries in the left hand an earthen pot covered with a dressed deerskin stretched tightly over it and fastened to it by a cord, and with a single drumstick in his right hand, he beats the time on this pot, which serves as a drum; all respond by cries, which they utter in time; some carry *chichicouas* or empty gourds, in which are placed glass beads or little pebbles to make a noise and they shake them in time with the rest."

Kroeber describes a similar earthenware drum used by the Arapaho in the Peyote[3] ceremony. He says: "Only the drum and the rattle of today are used in the Peyote ceremony, which is comparatively brief. The participants gather in a tent about a small fire, the equivalent of an altar. Only one sings at a time, accompanying himself on a rattle, the man next to him drumming for him. After four songs the drum and rattle are passed on to the next participants until the rounds are made.

"The drum consists of an ordinary small earthenware pot over which is stretched a piece of buckskin, or sometimes canvas, which is kept wet through the night by a little water inside the jar. The skin is stretched by a rope. This

1. Brickell. The Natural History of North Carolina, p. 328.

2. Quoted by Holmes in Bur. of Ethnol. 20th An. Rept. 1898–1899, p. 34 ff. Wash. 1903.

3. The Peyote cult is not tinged appreciably with Ghost Dance beliefs. It contains many Christian ideas, but they are so incorporated that fundamentally the worship is not dependent upon Christianity. Amer. Museum of Nat. Hist. Bul. XVIII, pt. 4, p. 398. 1907.

rope, however, does not pass through holes in the skin, but is wound around seven glass marbles which have been rolled up in the skin. This device prevents the stretching of the skin, or the tearing out of the perforations in it when the string is tightened. The seven marbles also play a part in the symbolical rites the next morning. The drum is made on the evening of the ceremony, and hours are sometimes consumed in adjusting it. When at last the right degree of tension is secured together with the proper saturation of the skin, the effect is moderately loud and deep, and very resonant. The drum is usually beaten very rapidly so that the reverberation from the separate blows fuse. Inside the drum are a small quantity of ashes and three small billets of pine wood. The introduction of these is purely for ceremonial reasons."[1] At sunrise when the singing is finished the drum is taken apart and each portion passed around to the worshipers, who drink the water remaining in the jar, and press the seven marbles to different parts of the body to prevent disease.[2]

The Zuni[3] make a similar drum from a water vase or olla (*k'is-wih-na-k'ia-te-la*) which is used in the songs of the sacred orders only. The beater is a piece of wood bent in a hoop and is called *te-pe-ha te-se a-k'ia-na-kia-tsi k'on-ne.*

The Lacandones, a tribe of the Maya, have a pottery ceremonial drum described by Alfred M. Tozzer[4] as follows: "This is made of an earthen jar with the mouth covered with a piece of skin. The drum stands on a base made of twisted vines. It is struck with the palms of the hands. There are often two placed side by side in the ceremonial hut and beaten at the same time. This form of drum always has upon one side a head fashioned in clay similar in all respects to that seen on the incense burners. The drum is a god in itself and called *Qaiyum* the singing god." The Mixes, who occupy villages in the Districts of Yautepec, Villa Alta, and Tehuantepec (Mexico), have a pottery drum illustrated and described by Starr[5] as the *mai-ya*. Farther south the Chorotes

1. Idem. p. 400.
2. Idem. p. 404.
3. Stevenson. Bur. Ethnol. 3rd An. Rept. 1881–1882, p. 582. Wash. 1884.
4. Tozzer. Comparative Study of the Mayas and the Lacandones, p. 74.
5. cf. Starr. Notes, p. 62. 1900.

Class III Vibrating Membranes Division 1 Struck Section A Drums 1. With one head

of Bolivia employ a magic drum made of an earthen pot partly filled with water to give the desired tone.[1] The widespread area covered by the foregoing authorities indicates that the pottery drum was a common type in the early days and not peculiar to any one tribe. Today, however, its use is confined to the Pueblo Indians and to other tribes farther south. A kindred form is found in the *daraboukkeh* of Arabia and Northern Africa.[2]

3177 KETTLE DRUM. An iron pail with skin stretched over the top, and held in place by a cord, the ragged edges hanging loosely below the cord. The head is decorated in brown and yellow, with a circle enclosing a central cross; diverging from the circle are the four cardinal points and four zigzag lines emblematic of lightning. The beater is made of a pliable stick, the end bent in a hoop. Tribe: Apache.

Diameter, 11 inches. Depth, 8¾ inches.

Bourke[3] in writing of the Apache refers to their music in the following words: "The instrumental music was furnished by rattles and a drum, which latter was made in this manner: An iron camp-kettle was partly filled with water and covered tightly by a wet cloth well soaked. The stick was a long willow switch, curved into a ring at the end which struck the drum. No flutes were used and no whistles, although the Apache make and play them both. Neither did the performers introduce their favorite *tzit-idoatl* (or music wood), the native fiddle, formed of a section of the stalk of the century plant." Musters[4] describing a dance of the Tehuelche Indians of Rio Chico, Venezuela, mentions a drum made from the ordinary camp kettle with skin stretched over the top.

3178 DRUM. Made from a discarded powder-can, which forms a circular body of corrugated metal. The single head is of deerskin decorated in brown and yellow with symbolic emblems of the *Ilgnaa;* this consists of a cross, the arms of which are finished in two points and display the zigzag

1. Rosen. The Chorates Indians. Congrès. Internat. des Américanistes 14, p. 656 ff. 1904.

2. Africa. No. 1426.

3. Bourke. Folk-Lore, vol. 2, 1891, p. 450.

4. Musters. Unter den Patagoniern, Jena, 1873. Quoted in Anthropos, vol. 3, p. 920.

lightning symbol. In two of the corners formed by the intersecting arms of the cross are crescents. A hooped wooden beater. Tribe: Navaho.
Diameter, 9 inches. Depth, 12¼ inches.
cf. note to No. 3326.

2944 WATER DRUM. A cask-shaped body with four feet, cut from a log of wood hollowed out. The head of skin stretched over the edge is fastened with cords on the under side of the cask. The tension of the skin is regulated by twisting small sticks inserted under the cords. Reproduction. Tribe: Pawnee. Family: Caddoan.
Diameter, 11½ inches. Depth, 1 foot 8 inches.

Four of these drums are used in the Bear Dance of the Skidi Pawnee.[1] A similar drum used in the Mide'wiwin ceremonial of the Chippewa is described by Frances Densmore[2] as follows: "This *mitigwakik* is made of a basswood log, hollowed by charring and scraping. It is 16½ inches high, 10 inches in diameter at the base, and 8½ inches in diameter at the top. It is decorated with a blue band at the base, four heads representing the four *Mide'manido* (spirits), and an oblong, said to represent a bag containing yarrow, which signifies life. The heads are outlined in red and the bag in blue. When in use it is partially filled with water. The top is of untanned deerskin, which is dampened and stretched very tight. This is held in place by a flesh-hoop wound with cloth. At times instead of being dampened the top of the drum is held toward the fire or in the warmth of the sun, which has the desired effect. Great care is taken in preparing a drum for use, the proper quality of tone being secured by the treatment of the deerskin top."

The Indians of the Rio de Sonora employ a peculiar form of water drum in the Deer Dance described in the note to No. 2628, p. 134.

3346 KETTLE DRUM. Made from an ordinary camp kettle with skin stretched over the top, edged with a band

1. Dorsey. Traditions of the Skidi Pawnee. Memoirs of the Amer. Folk-Lore Society, vol. 8, 1904, p. 300, fig. 21; also note 6, p. 329; also note 299, p. 359.

2. Densmore. Chippewa Music. Bur. of Amer. Ethnol. Bul. 45, p. 11 ff. Wash. 1910.
cf. Rosen. The Chorates Indians in the Bolivian Chaco, p. 656 ff.
See note to No. 3142, p.

Class III Vibrating Membranes
Division 1 Struck
Section A Drums
1. With one head

of red flannel. Tribe: Mandan. Family: Siouan. Locality: North Dakota. Reproduction. Made by a Mandan boy in the Indian Industrial School, Carlisle, Pa. Diameter, 11 inches. Depth, 10¾ inches.

The Indian by whom this drum was made stated that in the early days the Mandans used the kettle drum in the Buffalo Dance, also in dances after a victory. The singers sat about the drum and the women danced around it. Catlin[1] describes this dance of the Mandans as follows: "In the olden days when the buffalo still ranged over the prairies and formed the staple article of food among some of the tribes, the Mandans, even then a small tribe and surrounded by enemies, were often in a state of starvation if their herds of buffalo roved too far from their village for them to venture in pursuit. At such times an order was issued by the chief and the Buffalo Dance proclaimed. Every man in the village was obliged to keep the 'buffalo mask' within reach and when the call came this was donned and the dance started to the accompaniment of the tambourine, drum, and rattle. The mask worn consisted of the head of a buffalo with a strip of skin hanging to it the whole length of the animal. The dance never failed to bring the buffalo, for it was danced, sometimes, two and three weeks without intermission, until a signal from the men on the hills announced the appearance of the herd in the distance."

The use of the ordinary camp kettle as a drum is referred to in the Ethnologic Dictionary of the Franciscan Fathers[2] in a description of the girls' dance (squaw dance), which, with the "carrying of the rattle stick" forms one of the principal features of the war dance of that tribe. In converting the kettle into a drum a few pebbles are thrown into it and the opening is covered with a piece of goat or buckskin. It is struck with a small stick and accompanies the dance.

A similar drum was also used by the Caddoans. A primitive form of water drum of Mandan origin is the *eeh-tech-ka* recorded by E. H. Hawley of the National Museum. This is composed of two sacks each in the form of a large tortoise made from the skin of a buffalo's neck and filled with water. These are beaten with two sticks.

1. The Manners, Customs, and Conditions of the North American Indian. vol. 1, p. 126 ff., pl. 56.
2. P. 370.

Musters[1] in a description of the dance of the Tehuelche Indians of Rio Chico, Venezuela, refers to a drum made from the ordinary camp kettle with skin stretched over the top and "a kind of bone instrument made from the shank bone of a guanaka with holes which could be blown or played with a short bow with horsehair strings."

3149 WATER DRUM. *Ga-no-go-o.* A section of a small log of wood hollowed out, the open end covered with buckskin held in place by a rope of the same wound with red flannel. The beater has a small knob at one end; the opposite end broadens out and is cut in grooves to fit the fingers. This form of stick is peculiar to the Seneca. Tribe: Seneca. Family: Iroquoian. Locality: New York State.
Diameter, 5¼ inches. Depth, 4½ inches.
A similar specimen in the U. S. Nat. Museum Col. No. 209,046. The same collection has a Chippewa drum (No. 204,969) also called *ga-no-jo-o.*

3626 DRUM. Similar to No. 3149. The head has a fringe of buckskin where it is fastened to the shell. Tribe: probably Apache.
Diameter, 5½ inches. Depth, 5¾ inches.

3615 DRUM. Similar to No. 3149.
Diameter, 5¼ inches. Depth, 4½ inches.

3534 WATER DRUM. *Ga-no-go-o.* Made of a small wooden paint keg, banded with iron. The top covered with skin held in place with a flesh-hoop wound with cloth. A grooved wooden beater. Tribe: Alleghany Seneca. Family: Iroquoian. Locality: New York State.
Diameter, 7½ inches. Depth, 3¾ inches.
Used in connection with the horn rattle (No. 3535, p. 159) to accompany social and religious songs. Obtained from Dayoa-tzonh-tsi Chauncy Warrior, a Seneca Indian, 1906.

2044 DRUM. A circular frame of wood with sheepskin head. At one side a tree sketched in black and above it a star. From the Warm Springs Reservation, Oregon.[2]
Diameter, 1 foot 4½ inches. Depth, 3⅛ inches.

1. Unter den Patagoniern quoted in Anthropos, vol. 3, 1908, pp. 920–921.
2. This reservation is occupied by the Paiutes of the Shoshonean family.

Class III Vibrating Membranes Division 1 Struck Section A Drums 2. With two heads

2026* DRUM. A circular rim of wood covered with membrane decorated with the cloud symbols of the Pueblo Indians. The edge is hung with bits of red flannel and feathers.
Diameter, 1 foot 1½ inches.

631 DRUM. *Wakan-chan-cha-gha.* Conjurer's drum. A circular frame of wood with skin stretched over both sides and the edges laced together with a thong. On one side the thunder-bird[1] with zigzag lines (the lightning flash) diverging from its head, is outlined in black on a green ground; on the other side a crudely drawn animal form with the zigzag lines radiating from its mouth, on a background of yellow. Two small brass bells tied to the rim. Family: Siouan.
Diameter, 10 inches. Depth, 3 inches.
Illustrated in Brown. Musical Instruments of North America, pl. I, fig. 1. See also footnote reference to No. 579, p. 125.

2822 DRUM. A shallow circular frame of wood with skin stretched over both sides. One side painted a bright vermilion with a four-inch border of black extending nearly half way around the head. In the center a bird's head outlined in red on a white plaque framed in a quadrangle of black. On the reverse, a face outlined in red. Tribe: Chippewa (Ojibwa). Family: Algonquian. Locality: Leech Lake Reservation, Minnesota.
Diameter, 1 foot 5½ inches. Depth, 2½ inches.
The Chippewa (Ojibwa), one of the largest tribes north of Mexico, formerly occupied a vast area extending along the shores of Lake Huron and Lake Superior across Minnesota to the Turtle Mountains in North Dakota. Frances Densmore,[2] who recently made a study of Chippewa

* This instrument is placed with Class III in the kindred instruments of the Historical Groups.

1. Grinnell, writing of the Lodges of the Blackfeet (Siouan) describes a lodge decorated with the thunder-bird, apparently erected to appease the elements and avert disastrous storms. Back of this lodge a drum, decorated with the same symbol, was hung on a tripod, and neither man nor beast was allowed to pass between the lodge and this sacred drum. Amer. Anthrop. New Ser. vol. 3, 1901, p. 657.

2. Densmore. Chippewa Music. Bur. of Amer. Ethnol. Bul. 45, p. 1. 1910.

Music, says in speaking of the songs of these people: "Chippewa songs are not petrified specimens; they are alive with the warm red blood of human nature. Music is one of the greatest pleasures of the Chippewa. If an Indian visits another reservation, one of the first questions asked on his return is, 'What new songs did you learn?'

"Every phase of Chippewa life is expressed in music. Many of the songs are very old and are found on several reservations; others are said to be the more recent compositions of certain men who composed them 'during a dream,' or 'upon awaking from a dream.' It is still customary for the Chippewa to celebrate an important event by song."

Two interesting drums of the type of No. 2822 are mentioned by Dorsey[1] in an account of the hand-guessing game of the Wichita (Caddoan). One of these he describes as "a small drum held in the hand during the dance." It is of the variety with two heads, being made of two pieces of rawhide carefully and evenly stretched over a circular wooden frame and laced along the median line. The drum is four inches deep and sixteen inches in diameter. One head is painted blue; the other pink with large blue circles in the center. The reason given for this peculiar manner of painting the drum was that it was used in two ceremonies, the blue side being used during the war dance, while the use of the pink side was confined exclusively to the Ghost Dance.

The second drum, constructed in a manner similar to the one just described, is eight inches in depth and thirty inches in diameter, and is a remarkably good specimen of Indian workmanship. The entire surface of the drum is painted a deep blue, both sides containing similar symbols.

"The center of the drum bears a red circle six inches in diameter, upon which is an unusually good drawing of an eagle, the black-tipped white wing and tail feathers being drawn with great fidelity; the body is, of course, black. Surrounding this red sphere is a narrow blue line from which radiates a white line five inches in length, which is crossed at right angles near the outer end by a moon symbol in red. The line terminates in a five-pointed blue star. Between this star and the edge of the drum is

1. Dorsey. Amer. Antiq., vol. 23, Jan. Nov. 1901, p. 367 ff.

Class III
Vibrating
Membranes
Division 1
Struck
Section A
Drums
2. With
two heads

drawn in white a pipe with a short stem. Diagonally across and near the other edge of the drum is a yellow star with a pipe in white similar to the one just mentioned. The two diagonally opposite sides are occupied, on one side by a red and on the other by a green star. The following explanation was given for these symbols: The red center symbolizes the earth, its light blue boundary being the firmament; the white line leading from this firmament to the blue star representing the way of life along which the spirits of the departed travel in their journey to the west, as blue among the Wichita is symbolic of the west. The color symbolism of the three remaining stars is: north for the green, east for the yellow, and south for the red. The deep blue color of the drum itself represents the heavens. I was informed that this drum is used not only in the hand game, but in the so-called war dance. It is also used in rain ceremonies, but concerning the latter there was no time to get any detailed information. The two pipes, of course, have special reference to the use of the drum during the war ceremony. Accompanying the drum are four forked stakes upon which the drum is suspended at some distance from the ground when in use by four leather thongs, which extend out on the four sides from the center. In addition, the drum bears on the upper surface a braided rawhide handle."

3395 DRUM. A square frame of wood covered with skin, the edges laced together with a leather thong. Around the edge on each side is a band of small triangles painted in solid red, symbolical of mountains, or a group of tepees, and in the center of the field are three rows of angular lines that might represent a flight of birds or arrow-heads. The wooden beater has a padded head covered with buckskin. Tribe: probably Hupa. Family: Athapascan. Locality: California.

Width, 1 foot 8 inches. Depth, 3⅞ inches.

The Hupa Indians occupy a reservation in California that covers an area some twelve square miles in the valley of the Trinity River, a territory that formed the original habitat of the tribe. In the tribal dances the women wore skirts and aprons of deer skin ornamented with pendants cut from abalone shells. Bur. of Amer. Ethnol., Bul. 30. p. 581. Wash. 1907.

The drums of the Twana (Salishan) have square or rectangular heads, the sides of which are from a foot to two feet or more in length. They are made of deerskin, stretched over a wooden frame. Each drum has only one head, and on the reverse side two leather thongs or straps are crossed at right angles for a handle. By this they are held with one hand, while the drumstick is held in the other. They are from three to six inches in depth, and vary in tone, according to size, as much as our snare and bass drums. The Clallam (Salishan) use the same kind of drum, and also have another form, which is similar in all respects except that the head is round instead of rectangular.[1]

Dr. Charles E. Woodruff, U. S. A.,[2] in a paper on the Dances of the Hupa Indians, states that this tribe has four dances: the Woodpecker, the White Deerskin, the Fire, and the Flower. The only instrument mentioned is the whistle used in the White Deerskin Dance.

3174 DRUM. A shallow circular frame of wood with skin stretched over both sides and meeting in a seam around the edge. Across one side a knotted cord that vibrates when the drum is struck. An indistinct pattern of arrow-heads outlined in red around the edge. A knobbed beater with padded head. Tribe: Chippewa.

Diameter, 1 foot 6¾ inches. Depth, 2½ inches.

W. J. Hoffman in his paper, The Midewiwin, or Grand Medicine Society,[3] of the Ojibwa illustrates and describes various instruments used in the ceremonies of this tribe. A circular drum of the tambourine type, used by the *Wabeno* (conjurer) in his incantations, is made of ash wood covered with a piece of rawhide, tightly stretched while wet. Upon the upper surface is drawn a mythical figure with arms and legs extended, the body painted red and the head outlined with black with serpentine lines at the top like horns. These lines denote superior power. No. 631 of this collection described on page 142, a conjurer's drum of the Siouan family, has a similar

1. Eells. Amer. Antiq. vol. 12. 1890. p. 83.
Also Smith. Inst. An. Rept. 1887, p. 651 ff. Wash. 1889.

2. Woodruff. Dances of the Hupa Indians. Amer. Anthrop. vol. 5, 1892. p. 53.

3. Bur. of Ethnol. 7th An. Rept. 1885–1886, pp. 143, 190, 191. Wash. 1891

Class III Vibrating Membranes Division 1 Struck Section A Drums 2. With two heads

serpentine line protruding from the mouth of the animal that ornaments one side. Another drum described by Hoffman is of special interest. This is called the *Mide* drum and is used by the shamans in healing the sick. "It is cylindrical, consisting of an elongated kettle or wooden vessel, or perhaps a section of the hollow trunk of a tree about ten inches in diameter and from eighteen to twenty inches in length, over both sides of which rawhide is stretched while wet, so that upon drying the membrane becomes hard and tense, producing, when beaten, a very hard, loud noise, which may be heard at a great distance. Frequently, however, water is put into the bottom of the drum and the drum head stretched across the top in a wet state, which appears to intensify the sound." At the initiation of new members to the *Midewigan* the properties of the drum are explained as follows: "It was at first the gift of *Kitshi Manido*, who gave it through the intercession of *Minaboẓho;* that it is used to invoke the presence of the *Mide Manidos*, or sacred spirits, when seeking direction as to information desired, etc.; that it is to be employed at the side of the sick to assist in the expulsion or exorcism of evil *manidos* who may possess the body of the sufferer; and that it is to be used in the *Midewigan* during the initiation of new members or the advancing of a *Mide* from a degree to a higher one." Mr. Hoffman[1] also describes the war drum and illustrates one of the mnemonic charts of songs formerly used in the war dances. The drum, like those of the Apache, is made from an old iron kettle with skin stretched over the top; when in use it is attached to four sticks to prevent its touching the ground. "The drumsticks are strong withes, at the end of each of which is fastened a ball of buckskin thongs." The Apache drumstick is a twig with the end bent in a hoop. W. W. Beach[2] states that the Chippewa of Northern Minnesota do not appear to be musical; their notion of music seems to be concentrated in the *tawabegun* (drum) and the *madwawechegance* (jews' harp).

The Chippewa Dictionary[3] gives the following names for drums:

Mitigwakik: drum with one head.

1. Bur. of Ethnol. 7th An. Rept. 1885–1886, p. 238. Wash. 1891.
2. The Indian Miscellany, p. 369.
3. Rt. Rev. Bishop Baraga.

INDIAN BOY WITH FLUTE. TAOS PUEBLO, NEW MEXICO
PHOTOGRAPH BY FRED HARVEY. COPYRIGHT, 1908, BY FRED HARVEY

Teweigan: drum with one head.
Pa gaakokwan: drumstick.

Class III Vibrating Membranes Division 1 Struck Section A Drums 2. With two heads

589 DRUM. A cylindrical shell of corrugated metal, possibly a powder can, originally painted white. The open ends are covered with rawhide decorated in green and yellow, the edges of which are laced together with thongs of rawhide. Tribe: Hopi. Family: Shoshonean. Locality: New Mexico.
Diameter, 9½ inches. Depth, 11½ inches.

630 DRUM. Made from a log of cottonwood hollowed out and the ends covered with buffalo skin, the edges laced together with strips of the same. Tribe: Hopi.
Diameter, 9¼ inches. Depth, 1 foot 6 inches.
Mr. James Stevenson[1] in his catalogue of Pueblo instruments, describes a similar drum from the Hopi Indians, Arizona, and gives the native name as *pur-pi-shuk-pi-po-ya*. The U. S. Nat. Museum has several similar drums from the Zuni, Nos. 234,486 and 234,444.

2802 DRUM. Similar to No. 630. The surface colored with yellow ochre. A knobbed beater with padded head. Tribe: Zuni. Family: Zunian. Locality: New Mexico.
Diameter, 1 foot 2¼ inches. Depth, 2 feet.

591 DRUM. Similar to No. 630. Cylindrical shell hollowed out of a log of wood. Heads of skin laced together with strips of the same. Tribe: Hopi.
Diameter, 7¼ inches. Depth, 12 inches.

3120 DRUM. European model. A circular shell of wood with skin stretched over the open ends and laced together with strips of the same. A knobbed beater. Tribe: probably Pueblo.
Diameter, 9 inches. Depth, 5¾ inches.

628 DRUM. Similar to No. 630. A very old specimen. Tribe: Hopi.
Diameter, 11 inches. Depth, 1 foot 2½ inches.
There is a similar drum from the Hopi in the U. S. Nat. Museum Coll. No. 151,888.

1. Illustrated Catalog of the Collections obtained from the Pueblos of New Mexico and Arizona in 1881. Bur. of Ethnol. 3d An. Rept. 1881–1882. p. 519. Wash. 1884.

Class III Vibrating Membranes Division 1 Struck Section A Drums 2. With two heads

2043 DRUM. Similar to No. 630. From the ancient Pueblo of Cochiti, Rio Grande, New Mexico.
Diameter, 1 foot 1 inch. Depth, 1 foot 4½ inches.

2856 DRUM. A circular frame of wood ornamented with dovetailed points of red and green. The heads are colored with yellow ochre, decorated with drawings in yellow and green. The edges of the two heads are laced together with a thong. Tribe: probably Zuni.
Diameter, 1 foot 1½ inches. Depth, 7¾ inches.
The figure in the center of one head doubtless represents the corn maiden, and the two four-lobed ornaments, the squash blossom. This drum is very similar to one illustrated by Fewkes[1] in his article on the New Fire Ceremony at Walpi.

2024 DRUM. Similar to No. 2856, decorated on both heads with symbolic emblems in dull blue and pink. Tribe: probably Nambe of the Rio Grande Pueblo.
Diameter, 10¾ inches. Depth, 11 inches.
The Nambe are a small group of the Tewa tribe (Tanoan family) that occupy a pueblo north of Santa Fé, New Mexico, on the Nambe River, a tributary of the Rio Grande. Bur. of Ethnol., An. Rept., Bul. 30, pt. 2, p. 15. Wash. 1910.

629 DRUM. A circular shell of wood covered with red flannel, ornamented with glass beads and brass tacks. Two heads of skin, stained yellow and decorated across the center with parallel lines and a row of arrow-heads. On the reverse, a four-pointed red star in the center. Tribe: Creek (Maskoki). Family: Muskhogean. Locality: Oklahoma. (Reservations.)
Diameter, 1 foot ⅜ inch. Depth, 7¼ inches.
A relic of the Indian rebellion, 1867, used by the Creeks after their victory at the battle of Frog Lake, Canada, which was followed by a general massacre of the whites. In the early days the Creeks were located in the states of Georgia and Alabama, but about 1840 the greater part of them removed to lands assigned to them in the Indian Territory.

1. Amer. Anthrop. New Ser. vol. 2, p. 116, pl. III. 1900.

1454 DRUM. A cylindrical model made of birch bark. The sides ornamented with a pictograph of a hunting scene and camp life. Tribe: Micmac. Family: Algonquian. Locality: Nova Scotia and vicinity.

Diameter, 5½ inches. Depth, 11 inches.

An important Algonquian tribe that occupied Nova Scotia, Cape Breton, and Prince Edward Island, the northern part of New Brunswick, and probably points in south and west Newfoundland. Bur. of Ethnol., An. Rept., Bul. 30. p. 858. Wash. 1910.

The Chippewa of the eastern woodlands used similar drums.

3491 RATTLE. A straight stick with one end shaved thin and bent in a hoop over the two sides of which skin is stretched. One side of this is decorated in ochre and indigo with a tepee between two trees. The handle is covered with buckskin. Tribe: Apache. Section B Rattles

Length, 1 foot 1 inch. Diameter, 5½ inches.

This form of rattle is used by the Chippewa[1] in their Mide ceremonial by whom it is called *cici'gwan*. It is also found among the Dakota. The decoration of the above specimen suggests the provenance stated.

2276 RATTLE. Similar to No. 3491, decorated in yellow. At the end of the handle is a flexible thong finished at the end with a slung-shot, a leather-covered stone. The rattle is ornamented with tufts of possum and beaver skin, and pendant tin cones.

Length, 1 foot 7½ inches. Diameter, 5 inches.

"This is a unique specimen. While the form suggests the rattle of the Chippewa, the color and decoration with the slung-shot suggest some tribe of the Southern Plains, the Cheyenne, Arapaho, or Comanche. The Comanche and Arapaho employ loose-necked clubs or slung-shots, while the Shoshone and Siouan tribes of the Northern Plains use stiff clubs. Tin cone rattles are also used by the tribes of the Southern Rockies and the Southern Plains tribes."[2]

1. cf. Densmore. Chippewa Music. Bur. of Amer. Ethnol. Bul. 45, pl. I. Wash. 1910.

2. Hough, Walter. Curator of Ethnology, U. S. Nat. Museum, Washington.

Class III Vibrating Membranes
Division 1 Struck
Section B Rattles

639 RATTLE. Similar to No. 3491. The skin colored with yellow ochre. Family: probably Siouan.

Length, 1 foot 2 inches. Diameter, 7 inches.

Catlin[1] writing from the mouth of the Teton River (1832–39), a branch of the Missouri, describes and illustrates the musical instruments of the Sioux. The rattle or *she-shee-quoi*, most generally used, is made of rawhide which becomes very hard when dry, and charged with pebbles or something of the kind, produces a shrill noise; this is used to mark the time of their dances and songs.

The following Siouan rattles are described in an unpublished manuscript by Robert Ormsby Sweeny, of St. Paul:

Maza-hda-hda: bits of tin or copper cut and bent around a string.

Shakee-icha-koka: a rattle of deer's toes.

Napo-kashka-ta-sake or *napo-kashke-yu-dhe:* a bracelet rattle worn on the wrist; it is made of elks' tusks, bits of horn, fruit pits, deer's toes, bones, shells, wampum, or little bits of copper.

Hda-hda-siuta-hada: made of the rattles of the rattlesnake (*crotalus horridus*); attached to the lower end of the stick is a bladder rattle, partly filled with gravel, the combination of sounds resembling the rattling and hissing of the serpent.

Kezonta-koka: a turtle shell containing pebbles, the head and feet of the animal represented by bits of rawhide and colored strings.

Pe-hda-hda: made from the horn of a Rocky Mountain sheep (Ovis Montana), scraped and boiled and worked until it is translucent, and bound with thongs of buckskin.

Wa-mnu-ha: a rattle made of rawhide stretched over a distended bladder containing pebbles and charms of various kinds, used by the medicine men.[2]

Chegah-skah-hdah: conjurer's rattle. A tapering wooden wand covered with buckskin and hung with cones.

Pazhuta-saka: conjurer's rattle. Globular form with a straight wooden handle usually made of rawhide or buckskin.

Napo-shampidah-hah; maza-rhda-rhda-hda-hda; hanska-

1. Catlin. The Manners, Customs, and Condition of the North American Indians, vol. 1, p. 242.
2. cf. Specimens in the Indian collection of the University of Pennsylvania Museum.

bugo-kah-ho-kah: rattle wands or "tappers." Wooden sticks with knobbed heads hung with loose rings or pendant rattles.

2793 RATTLE. Similar to No. 3491. The decoration, a tepee in yellow. The buckskin-covered handle is finished with a fringe of tin cones. Family: probably Apache.

Length, 1 foot. Diameter, 4 inches.

The Peabody Museum, Cambridge, Mass., has one of these rattles. No. 64,434.

3176 RATTLE. *Cici'gwan.* A circular frame of wood with skin stretched over both sides. No decoration. Tribe: Chippewa (Ojibwa). Family: Algonquian. Locality: Leech Lakes Agency, Minnesota.

Diameter, 6¾ inches.

This form of rattle, usually about nine inches in diameter and made of deerskin, is used by the *dja sakid* (doctor or juggler) in his treatment of the sick, also in the *Mide* ceremonial. It is held in the right hand of the medicine man who at a certain point in the ceremony strikes it against his breast; then leaning over the patient he strikes his back between the shoulders with the rattle. It is claimed that this enables him to locate the disease in the patient. During this ceremony an attendant at one side accompanies the *dja sakid* on a circular drum about 15 inches in diameter. Four rattles are used in the *Mide*. Three consist of small circular wooden drums covered with rawhide and pierced by a stick which forms the handle. These are used in the treatment of the sick and also in the "shooting of spirit power" in the *Mide* ceremony. The fourth is made from a wand of wood with one end bent in a circle and covered with rawhide. (See No. 3491). None of these rattles are decorated. The Chippewa name for rattles is *cici'gwan.*[1]

A similar rattle is found among the Menomini.[2] Perrot[3] writing in 1634 describes a similar rattle or small drum, the *chichigouan* used by the sorcerers of the Canadian Indians, as follows:

"Ce tambour est de la grandeur d'un tambour de basque;

1. Densmore. pp. 12, 14, 48.
2. cf. Bur. of Ethnol., 14th An. Rept., 1893, pt. 1, p. 148. Wash. 1896.
3. Perrot. Mémoire sur les moeurs, coustumes et religion des sauvages de l'Amérique septentrionale, p. 182.

Class III
Vibrating
Membranes
Division 1
Struck
Section B
Rattles

il est composé d'un cercle large de trois ou quatre doigts et de deux peaux roidement estendues de part et d'autre, ils mettent dedans des petites pierres ou petits cailloux pour faire plus de bruit: le diametre des plus grands tambours est de deux palmes ou environ: ils le nomment *chichigouan;* et le verbe *nipagahiman* signifie, je fais jouer ce tambour. Ils ne le battent pas comme font nos Europeens, mais ils le tournent et remuent pour faire bruire les cailloux qui sont dedans; ils en frappent la terre tantost du bord; tantost quasi du plat, pendent, que le sorcier fait mille singeries avec cet instrument.[1]

3175 RATTLE. *Cici'gwan.* Similar to No. 3176. Tribe: Chippewa (Ojibwa).
Diameter, 3¾ inches.

3492 RATTLE. A leather receptacle in the form of a crook with a grease-wood handle. Probably made from the tail of some animal.
Length, 7½ inches.
The Tonkawa in Southern Texas have a war and dance rattle *hah-whoothes* made from the tail of a white ox bent in a loop. cf. U. S. Nat. Museum Coll. No. 8,499. The Tonkawa are a prominent tribe forming the Tonkawan linguistic family resident in Texas.

2737 RATTLE. A tube of rawhide about an inch in diameter, bent in the form of a hoop, attached to a straight wooden handle. The ring is edged with a fringe of buckskin and the handle is wound with alternate rows of green and white beads.
Length, 8 inches. Diameter of ring, 4 inches.
While this may possibly be a rattle from the Cheyenne, it has every evidence of being a Star Dance rattle of the Gros Ventre (Siouan), the ring with the fringed buck-

1. The drum is of the size of a tambourine. It is composed of a circle (of wood) three or four fingers in depth, over the two sides of which skin is stretched. In order to increase the sound some small stones or pebbles are enclosed between the two heads. The diameter of the large drum is about the width of two palms. It is called *chichigouan;* and the verb *nipagahiman* signifies I drum or I play the drum. It is not struck as with the Europeans, but they turn and move it in order to sound the pebbles that are within; they strike it against the earth sometimes on its edge, sometimes on its flat side, while the sorcerer makes a thousand tricks with this instrument.

A DANCING LESSON. TAOS PUEBLO, NEW MEXICO

PHOTOGRAPH BY FRED HARVEY. COPYRIGHT, 1908, BY FRED HARVEY

skin being symbolical of the star and its rays. The Star Dance rattle of the Arapaho has a flat head, round or kite-shaped.[1] There is a similar specimen in the Museum of the University of Pennsylvania from the Wichita Indians.

570 RATTLE. *Paʒ-but-a-saka.* Conjurer's rattle. Globular form. Made of buckskin decorated with a crude drawing of a human face. The straight handle is wound with green and white beads originally decorated with feathers. Tribe: probably Cheyenne.
Length, 9¼ inches.
Used by the medicine men and prepared with secret and mysterious rites.
cf. Brown. Musical Instruments of North America, pl. I, fig. 3.

568 RATTLE. Globular form. Made of rawhide with a straight wooden handle originally covered with red flannel. Tribe: probably Arapaho.
Length, 10 inches.
In the Amer. Museum of Nat. Hist. Coll. (No. 50/1011) there is a medicine rattle[2] of the Arapaho made of the scrotum of a buffalo bull. This rattle is elliptical, painted red and decorated with black horseshoe-shaped figures symbolizing both the sun and horse tracks; also small Y-shaped figures representing bird tracks. These spherical rawhide rattles seem to be used among the Arapaho by the seven old men constituting the highest society in the ceremonial organization. On the whole, however, the use of rattles of this type is characteristic of the medicine man and his individual supernatural powers, and not of the tribal ceremonies. In most of the ceremonies either rattles are not used, as in the Crazy Dance, or if used they consist of bunches of hoofs attached to sticks, as in the Dog Dance. Rawhide rattles are used in the Star Dance, the first preliminary to the series of tribal ceremonies; but these rattles are small, kite-shaped, and flat; thus differ-

. cf. Kroeber. Amer. Museum of Nat. Hist. Anthrop. Papers, vol. 1, t. 4, p. 237, fig. 31. 1908.

Kroeber. The Arapaho. Amer. Museum of Nat. Hist. Bul. XVIII, g. 163. 1907.
ee also Dorsey. The Arapaho Sun Dance. Field Columbian Museum Publication 75, Anthrop. Ser. vol. 4, p. 42. 1903.

Class III
Vibrating
Membranes
Division 1
Struck
Section B
Rattles

ing very distinctly from the globular or oval or even sausage-shaped rattles of the medicine men. The rattle of the Sun Dance is described in the Appendix, p. 271. The general name for rattles among the Arapaho is *shi' shi'*. cf. U. S. Nat. Museum Coll. No. 152,808.

3394 RATTLE. An inflated bladder colored with ochre; the handle, edged with fringed buckskin and beads, is finished with a bunch of horsehair. Family: probably Apache. Length, 7 inches.

The dance rattles of the Assinaboin are of this form. cf. Peabody Museum Collection, Cambridge, Mass., Nos. 9623 and 7886. Also No. 7586 in the same collection from the Yanktonnais (Siouan).

3403 RATTLE. Globular form similar to No. 570. The membrane colored with yellow ochre and green and decorated with a human face. Suspended from the handle is a bunch of brown horsehair. Tribe: probably Apache. Length, 5¾ inches.

The Navaho, neighbors of the Apache, have a variety of ceremonial rattles, the form accompanying each chant being made of certain material applicable only to that chant, as follows:

Buffalo hide rattle, *ayani aghal*, the mountain and witch chants.

Badger hide rattle, *nahashchid aghal*, the beauty chant.

Rattle made of the hoofs of the deer, antelope, or bighorn, *akhesbga aghal*, the knife chant.

Rawhide rattle, *akhal aghal*, the big star chant.

Gourd rattle, *ade aghal*, the night wind, water, Big God, and feather chants.

Both the gourd and rawhide rattles are used in the big star chant and the rawhide in all other chants save the blessing, beard, and feather shaft chants.

The sound is produced by means of small pebbles of red-white stone, abalone shell, turquoise, and bits of cannel coal. The decoration usually consists of the sun, moon, or some constellation.[1]

Another form called *baghal* used by certain members of the tribe who impersonated the "slayer of monsters" is made of pinon seeds or cedar berries strung on a string.[2]

1. Ethnologic Dictionary of the Navaho Language, p. 401 ff.
2. Idem, p. 391.

The Medicine rattle *najojh* consists of a bunch of dew-claws attached to a thong; this type is used in ceremonies connected with wounds and injuries.[1]

068 RATTLE. Similar to No. 3403, but with a longer handle. One side decorated with a five-lobed ornament in red. At the end of the handle a bunch of black horse-hair fastened with a strip of fringed buckskin edged with red and black beads. Tribe: Apache.
Length, 11 inches.

067 RATTLE. Similar to No. 3394.
Length, 11 inches.

283 PAIR OF RATTLES. *She-shee-quoi.* In the form of mushrooms. Made of rawhide stretched over wooden hoops; the edges of the leather brought together at the center of one side form a handle. Tribe: Mandan. Family: Siouan. Locality: North Dakota.
Length, 8 inches. Diameter, 9¾ inches.

The Chippewa have a similar form of rattle called *she-shagwan* described by E. H. Hawley of the U. S. Nat. Museum. Catlin[2] in writing of the Mandan Indians (1832-39) mentions the *she-shee-quoi* as a rattle used by the medicine men. The same author furnishes the name *eeh-na-de* for dance rattles of gourd or skin.

The Mandan were originally located in the northwest where they dwelt in clay-covered log huts. An epidemic of smallpox in 1837 left but 31 survivors of a tribe of 1600. In 1905 the estimated number on reservations was 249.

CLASS IV SONOROUS SUBSTANCES[3]

540 RATTLE. *Gah-no-wa Gus-tah-we-seh.* Made from the shell of a snapping turtle, the neck and head drawn out to form the handle, which is braced with strips of wood and

Division 1 Struck

[1] Matthews. U. S. Museum of Nat. Hist. Coll., No. 74,730.

[2] Catlin. The Manners, Customs, and Conditions of the North American Indians, vol. 1, pp. 109, 163.

[3] For rattles of membrane see Class III, p. 149.

Class IV
Sonorous Substances
Division 1
Struck

bound with a leather thong. Tribe: Tonawanda (Seneca). Family: Iroquoian. Locality: Erie County, New York State.

Length, 1 foot 5 inches. Diameter, 8 inches.

Turtle rattles of this form are used to mark time in the Great Feather Dance, but are generally painted. This, however, is considered by the collector, Mr. Harrington, to be a council house rattle. It accompanies the voice and is used alone. The turtle and hickory bark rattles (No. 3538) are used in the False Face Society; the gourd and bark rattles in the Eagle Society, and the drums and horn rattles (No. 3535) in the Bear, Buffalo, and Women's Societies of the Seneca.[1]

Morgan[2] describing a ceremony of the Iroquois, states, "The music was furnished by two singers, seated in the center of the room, each having a turtle-shell rattle. . . . It consisted of a series of songs or measured verses which required about two minutes each, for their recitation. They were all religious songs, some of them in the praise of the Great Spirit, some in praise of various objects in nature which ministered to their wants, others in the nature of thanksgivings to *Ha-wen-né-yu* or supplications of his continued protection. The rattles were used to mark time, and as an accompaniment to the songs. In using them they were struck upon the seat as often as twice or thrice in a second, the song and the step of the dancers keeping time, notwithstanding the rapidity of the beat. . . . To make this rattle they remove the animal from the shell and after drying it they place within it a handful of corn, and then sew up the skin which is left attached to the shell. The neck of the turtle is then stretched over a wooden handle."

Lumholtz[3] mentions the turtle shell among the clay representations of Aztec musical instruments excavated at the Cathedral of Mexico in 1900.

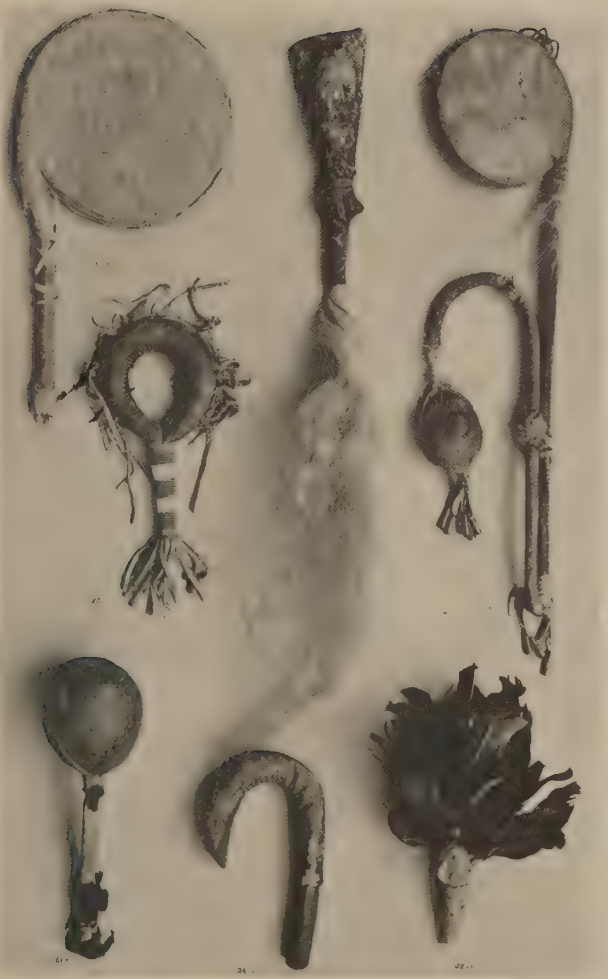
Fewkes[4] in writing on the Passamaquoddy Indians, mentions the fact that he was present at the work of exca-

1. Parker. Secret Medicine Societies of the Seneca. Amer. Anthrop. New Ser. vol. 11, p. 161, 1909.

2. Morgan. *Ho-dé-no-sau-nee* or League of the Iroquois, vol. 1, p. 268 ff.

3. Lumholtz. Unknown Mexico, vol. 2, p. 429 ff. 1902. See note to No. 3372, p. 180.

4. Fewkes. A Contribution to Passamaquoddy Folk-lore. Journal of Amer. Folk-lore, vol. 3, p. 261. 1890.



RATTLES OF VIBRATING MEMBRANES. INDIANS OF THE UNITED STATES
PP. 149, 150, 152, 153, 155, 175

vating an Indian burial ground at Watertown, N. Y., and with one of the skeletons a turtle shell was found which was possibly an old Indian rattle. . . . With the Passamaquoddy the shell of the turtle was used in olden times for a rattle, in the place of the horn, and in a story of the origin of the rattlesnake the conqueror is said to have used a rattle of this kind. In the Zuni dances and in the Moqui Snake Dance, a turtle rattle is tied to the left leg. The rattle carried in the hand of the Moqui snake dancer is a gourd, but the Passamaquoddy seem to find the horn better adapted for their purpose. The almost universal use of the rattle among the Indians in their sacred dances is significant. The meaning of the snake song is unknown to the Indians who sing it. The words are either archaic or remnants of a sacred language or mystic words of an esoteric priesthood.

Harrington[1] in an article describing the Annual Ceremony of the Delaware Indians witnessed at the Bartlesville Reservation, Oklahoma, shows the turtle-shell rattles used in that ceremony, and as well a peculiar drum made of a dry deerhide rolled up and stuffed with dried grass. The originals of these objects form part of the Heye Collection in the Museum of the University of Pennsylvania, Philadelphia.

Turtle-shell rattles are also found among the South Sea Islanders. Safford[2] in writing of the Island of Guam, one of the Ladrone group, says that the songs of the natives "were accompanied by appropriate gestures and movements of the body, the women using certain rattles and castanets made of shells. On those occasions the women adorned their foreheads with wreaths of flowers like jasmines and wore belts of shell and bands from which hung disks of turtle-shells."

3539 RATTLE. *Gah-no-wa Gus-tah-we-seh.* Similar to No. 3540. Tribe: Seneca.

Length, 1 foot 4 inches. Diameter, 6½ inches.

Used by the members of the False Face Society. The Cayuga (Iroquoian) Indians also have a rattle of this

1. Harrington. Some Customs of the Delaware Indians. In the Museum Journal, University of Penn., vol. 1, No. 3, p. 52 ff. 1910.

2. Safford. Guam and its People. Amer. Anthrop. New Ser. vol. 4, p. 717. 1902.

Class IV Sonorous Substances Division 1 Struck

type which they call *gad-sta-wen-drah*. cf. Cat. U. S. Nat. Museum.

619 RATTLE. *Yung-wey-sha-na*. A small turtle shell with a fringe of tin cones attached to a piece of buckskin fastened to one side. Tribe: Hopi.

Length, 4½ inches. Width, 3½ inches.

This form of rattle is bound to the leg below the knee and worn in the Snake Dance.

The Zuni name for a turtle-shell leg-rattle is *ka-ka-a-wen thle-a-kwi-we* or *thle-a-kwi-an nak'u-tchi-we*. U. S. Nat. Museum Coll. No. 69,267.

620 RATTLE. *Yung-uh-sho-na*. Made from a turtle shell with four pendant hoofs strung on a strip of buckskin attached to one side. Tribe: Hopi.

Length, 5¾ inches. Width, 4 inches.

A similar rattle, the *mo-sha-yes-ai-ya*, used by this tribe in the Buffalo Dance held before the chase, has pendant buffalo hoofs. One made entirely of hoofs, the *al-te-qua-bi*, is used in the morning to bring rain. They also have a cedar-berry rattle called *le-pos-le-qua-be*.[1] The Cherokee have a tortoise-shell rattle *tuksi* (tortoise) worn in the women's dance; it is tied about the ankles and the dancer marks the time by stamping the foot and sounding the rattle in unison with one of gourd held in the hand. U. S. Nat. Museum Coll. No. 130,491.

Among the Hopi the flesh of the turtle is carefully removed from the shell, leaving it hollow. To the edges of the breastplate are attached the toes of goats and sheep. These toes coming in contact with the hollow shell, produce a peculiar sound, in keeping with the sound caused by the gourd rattles used in the same ceremony. In the dance the rattle is fastened at the back of the right leg near the knee.[2]

Bancroft[3] describes the Green Corn Dance of the Jemez Indians (Pueblo) in which these knee rattles are worn. This dance is called the *you-pel-lay*. "When the performers first appeared, all of whom were men, they came

1. Hawley. U. S. Nat. Museum.

2. Dorsey. The Oraibi Soyal Ceremony. Field Columbian Museum Publications 55, Anthrop. Ser. vol. 3, p. 29. 1901.

3. Simpson. Journal of Military Reconnaissance, p. 17, Phila., 1852. Quoted by Bancroft, p. 550.

in a line, slowly walking, and bending and stooping as they approached. They were dressed in a kirt of blanket, the upper portion of their bodies being naked, and painted dark red. Their legs and arms, which were also bare, were variously striped with red, white, and blue colors; and around their arms, above the elbow, they wore a green band, decked with a sprig of pinon.[1] A necklace of some description was worn about the neck. Their heads were decorated with feathers. In one hand they carried a dried gourd containing some grains of corn, with which they produced a rattling kind of music; in the other, a string from which were hung several tortillas. At the knee were fastened small shells of the ground turtle and antelope's feet, and dangling from the back, at the waist, depended a fox skin. The musicians were habited in the common costume of the village, and made their music in a sitting posture. Their instruments consisted each of half a gourd placed before them, with the convex side up; upon this they placed, with the left hand, a small stick and with their right drew forward and backward upon it in a sawing manner, a notched one."

Teit,[2] writing of the Thompson Indians of the Northwest, states that they used very few musical instruments. Their songs and dances were accompanied by the drum, which consisted of a round wooden frame covered with skin, that of a one-year-old deer considered best, and often worn before using on the drum, because this was believed to improve the sound. The drums were generally painted with emblematic designs. Those made for potlatches had designs referring to those festivities. It is only recently that square drums have been made. The Thompson Indians used no rattles except rattling anklets made of deer hoofs, which were worn at dances. The same author states that the Shuswap sometimes hung fawn hoofs around the rims of their drums. The Huichol Indians (Piman family) located in the Sierra Madre Mountains of Mexico, have a deer-hoof rattle, to which they give the name of *rikŭa*.

3535 RATTLE. *Ga-non-gah Gasda-we-sa.* Made from a section of oxhorn, the ends closed with wood; a straight

1. Pinon is the common scrub pine of the country.

2. Amer. Museum of Nat. Hist. Mem. vol. 2, Anthropol. I, The Jesup No. Pac. Exped. vol. 4, pp. 383, 384. 1900.

Class IV Sonorous Substances Division 1 Struck

wooden handle. Tribe: Alleghany Seneca. Family: Iroquoian. Locality: Cattaraugus County, New York State. Length, 8½ inches. Diameter of head, 3½ inches.

Used with or without the drum to accompany the voice in various dances and ceremonies.

Similar specimen in the U. S. Nat. Museum Coll. cf. No. 219,045.

Used by members of the False Face Society. The Canadian Delawares have a similar rattle, which they call *cowunhegun*.[1]

In the *choogichoo yajik* or Serpent Dance of the Micmacs the head dancer marks the time with a horn rattle.[2]

3536 RATTLE. *Ga-non-gah Gasda-we-sa.* Similar to No. 3535. Tribe: Alleghany Seneca.

Length, 7¼ inches. Diameter of head, 2¼ inches.

Similar specimens in the U. S. Nat. Museum Coll. Nos. 219,045; 219,622; 219,623.

2794 RATTLE. *Ga-non-gah Gasda-we-sa.* Similar to No. 3536. Tribe: Seneca.

Length, 12 inches. Diameter of head, 1¾ inches.

3538 RATTLE. *Ga-snonk Gus tah we seh.* Made of a strip of hickory bark, the ends bent together forming a receptacle holding small pebbles. Tribe: Alleghany Seneca. Family: Iroquoian. Locality: Cattaraugus County, New York State.

Length, 1 foot 1½ inches. Width, 3½ inches.

This and the turtle-shell rattle are used in the annual dance of the False Face Society (*Ja-di-gon-sa*) held at the time of the Iroquois New Year, a ceremony probably introduced from the Iroquois people on the west of the Seneca where it is very strong. Its purpose is benevolence, the members acquiring magical powers for curing disease through wearing the masks. In a paper on the Music of the North American Indians[3] M. Gagnon, quoting Lafitau and Lejeune, gives the following account:[4]

1. Harrington. Amer. Anthropol. New Ser. vol. 10, p. 416. 1908.

2. Hager. Amer. Anthropol. vol. 8, p. 31. 1895.

3. Gagnon. Les Sauvages de l'Amérique et l'art Musical. In Compte rendu du Congrès Internat. des Américanistes 15, 1907.

4. The passage translated reads as follows:
The songs and the dances of our savages were always accompanied by a

Les chants et les danses de nos sauvages etaient toujours accompagnes d'un instrument bruyant, nullement mélodique, appelé *chichikoué*[1] ou *chichigouane* par les indigènes, et *chichiquois* par les Français. Si l'instrument était de grande dimension, on l'appelait *mitchichigouane* ou *machichiquois*, c'était, le plus souvent, une corne de bœuf ou de bison, remplie de petits cailloux, que l'on agitait à intervalles réguliers et rapprochés pendant toute la durée du chant ou de la danse. Chez les Iroquois c'etait quelque fois une petite citrouille creusée, séchee, puis remplie de cailloux ou d'osselets et fixee au bout d'un bâton.[2] Nos sauvages se servaient aussi de tambours qui jouaient un grand rôle dans leurs magies ou tabagies.[3]

Sir Francis Drake[4] writing in 1578 describes a dance rattle of the Patagonians of Santa Cruz, as made of bark sewed with gut string and hung from the belt of the dancer.

1969 RATTLE. A split quill, bent across the center, the end folded back and slipped in the opposite end, where it is wound with a strip of sinew. Tribe: Dalles. Family: Chinookan. Locality: Northern Oregon.

Length, 3¾ inches. Width, 1¼ inches.

The Chinookan names for rattles are *shugh* and *shukk-shukk*.

Among the Osage (Siouan) of Oklahoma, a bent quill rattle similar to this is attached to the top of the tattooing needles, four or five of which project from its smaller end. The rattling sound produced as the needles prick the skin symbolizes the rattle of the serpent as it stings its victim.[5] Examples of these may be seen in the Indian

noisy instrument not at all musical called *chichikoue* or *chichigouane* by the natives and *chichiquois* by the French. If the instrument was of large dimensions it was called *mitchichigouane* or *machichiquois;* it was most often the horn of an ox or bison, filled with pebbles, and it was shaken at regular intervals as they drew together during the chant or dance. With the Iroquois it was sometimes a small hollow gourd dried and then filled with pebbles or bones and fixed to the end of a stick. Our Indians also employ the drum, which plays an important part in their magic rites.

1. Sagard, writing in 1615, describes this as a small hand drum. See also note to No. 3176, p. 151.

2. Lafitau. Moeurs des Sauvages Amériquains, vol. 1, p. 215. 1724.

3. Lejeune. Relation du Canada pour l'année 1634. Sagard. Histoire, p. 474. 1636.

4. Quoted by Fletcher. The World Encompassed by Sir Francis Drake, p. 50. London, 1854. In Anthropos. vol. 3, p. 919. 1908.

5. Infn. W. Hough, U. S. Nat. Museum, Wash.

Class IV
Sonorous
Substances
Division 1
Struck

Collection of the Museum of the University of Pennsylvania, Philadelphia.

584 BELL. Made from the horn of a Rocky Mountain sheep. Tribe: Hopi.
Length, 5¾ inches. Width, 3½ inches.

582 RATTLE. An ox horn containing shot. Tribe: Abnaki. Family: Algonquian. Locality: New England.
Length, 12 inches.

An old shot horn originally the property of Sapiel Sockalexis, an Indian chief of the Penobscot (Abnaki) tribe, used at wedding feasts to mark the rhythm of the dance.

3667 RATTLE. A round gourd containing small glass beads; this has a wooden handle which passes through it and projects at the top. The decoration consists of two birds (crows) with spread wings which alternate with two four-pointed stars. The designs are carved in the surface of the gourd, and colored in indigo and white. Tribe: Arapaho.
Length, 11¼ inches. Diameter of gourd, 4 inches.

The tone produced by the small glass beads is a swish rather than a rattle. Similar rattles in the peyote ceremony are made of small gourds painted yellow;[1] the handles wrapped around with beads, similar to No. 1756, p. 168.

The gourd rattle, which is, perhaps, more generally used among the tribes than any other type, when manipulated by a native, can express his mood quite as eloquently as a violin does that of the virtuoso. In the early seventeenth century we read from the records of Captain John Smith[2] that the musical instruments of the Virginia Indians consisted of "a thick Cane, on which they pipe as on a Recorder.[3] For their warres they have a great deepe platter of wood. They cover the mouth thereof with a skin, at each corner they tie a walnut which meeting on the backside neere the bottome, with a small rope

1. Kroeber. The Arapaho. IV. Religion. Amer. Museum of Nat. Hist. Bul. XVIII, pt. 4, pp. 400–405, 1907.

2. Smith, Capt. John. His Works, vol. 1, p. 368. Also Beverley. History of Virginia, book 3, p. 193.

3. The flûte douce to which the name Recorder is given by Shakespeare in the 16th century, and confirmed by Praetorius in his Syntagma Musicum, 1618. cf. No. 906, European Section of Catalogue.

INSTRUMENTS OF THE SENECA INDIANS
PP. 126, 141, 155, 157, 159, 160, 167

they twitch them together till it be so tought and stiffe, that they may be beat vpon it as vpon a drumme. But their chiefe instruments are Rattles made of small gourds, or pumpeons shels. Of these they haue Base, Tenor, Countertenor, Meane and Treble.[1] These mingled with their voyces sometimes twenty or thirtie together, make such a terrible noise as would rather affright, than delight any man."

The antiquity of this form of rattle is further evidenced by the quaint extract from Hariot[2] writing in 1590 of the Virginia Indians, and "Their manner of prainge with Rattels about the fyer. When they have escaped any great danger by fea or lande, or be returned from the warre in token of Ioye (joy) they make a great fyer abowt which the men, and woemen fift (sit) together, holdinge a certaine fruite in their hands like vnto a rownde pompion or a gourde, which after they haue taken out the fruits, and the seedes, then fill with small stons or certayne bigg kernells to make the more noife, and fasten that vppon a sticke, and singinge after their manner, they make merrie; as myself obserued and noted down at my beinge amonge them. For it is a ftrange cuftome and worth the obseruation."

Speaking of gourd rattles in her notes on Omaha (Siouan) music, Miss Fletcher[3] states that the manner of playing them is determined by the character of the songs which they accompany: "A tremolo can be produced by shaking them, or they are played with a strong stroke and a rebound." In the construction of these ceremonial rattles great care is taken in procuring the material necessary to produce the desired effect, both as regards tone and decoration. Different tones are acquired by the insertion of pebbles, kernels of Indian corn, or minute glass beads. Morgan[4] in writing of the music of the Iroquois states that gourd rattles containing Indian corn were used in the *O-ee-dosé* concert and they were so made that each gave a distinct note by means of different sized shells and holes bored in them to emit the sound. Among twenty

1. Willoughby. The Virginia Indians. Amer. Anthrop. New Ser. vol. 9, p. 76. 1907.

2. Hariot. Report. 1590.

3. Fletcher. A Study of Omaha Music in Arch. and Eth. Papers of the Peabody Museum, Cambridge, Mass., vol. 1, p. 54. 1893.

4. Morgan. League of the Iroquois, p. 287.

Class IV
Sonorous
Substances
Division 1
Struck

of them rattled together at such a concert no two would give the same sound.

There are few ceremonies in which this type of rattle does not appear; for to the native it is full of symbolic meaning and embodies the magic powers of the Great Spirit. The scope of the symbolic ornament used in its decoration is well illustrated in Mr. Mooney's[1] detailed description of a Kiowa mescal rattle: "The rattle is diminutive, being only about nine inches long, exclusive of the buckskin fringes, which are ornamented with beads and the feathers of the bluebird. These feathers, as also some of another species at the top of the rattle, have a symbolic meaning in connection with the mescal rite.[2] The gourd of the rattle is about the size of a small hen's egg, being the ordinary gourd commonly used for this purpose, and is covered with carvings symbolic of the rite, which seems to be a worship of the elements or the powers of nature. Radiating downward for a short distance from the top of the rattle are a number of lines, painted green representing the falling rain, green or blue being the symbolic color of water. On opposite sides of the rattle are two zigzag red lines, running the full length of the gourd. These represent the mescal songs, the same device of zigzag lines[3] being frequently used in the Kiowa pictograph system to represent songs, the idea, perhaps, being to indicate the rising and falling of the voice in singing. In one of the divisions formed by the parallel lines is the figure of a flower with a bird pecking at it, representing the mescal and the bird (not identified), which is said to feed upon it. The bird is painted yellow, either because this is the natural color or to indicate that it is sacred to the sun. I have been told that it is the humming bird, which sucks the honey from the flower. In the other division is a figure with a round center painted yellow, from which radiate six curved lines, running out from a double circle of yellow dots around the central disk. The whole figure represents the mescal itself,

1. Mooney. A Kiowa Mescal Rattle, in Amer. Anthrop. vol. 5, p. 64. 1892.

2. See Peyote Ceremony, Appendix, p. 283.

3. The zigzag line has a variety of meanings: among the Pueblo Indians it signifies lightning; with the Arapaho the rays of the morning star are so depicted, while in the paraphernalia of the shaman it symbolizes the magic power radiating from his person. With the Chippewa the zigzag with branching lines terminating in two circles represents the path of life.

WALPI SNAKE PRIEST WITH LEG RATTLE OF PENDANT HOOFS
PHOTOGRAPH BY A. C. VROMAN

which is possibly regarded as typical of the sun, yellow being the color symbolic of the sun, or rather of the auroral morning light.

"By the side of this last is the principal figure, a rude semblance of a woman, with a sort of crown or halo about her head, a fan in her left hand, and a star under her feet. This is the 'Mescal Woman,' *Sei-man-yi* of the Kiowa, the presiding goddess of the ceremony. The figure has a double meaning, and while apparently only a fantastic figure of a woman, it conveys also to the minds of the initiated a symbolic representation of the interior of the mescal lodge. Turning the rattle in the hand toward the east, the lines forming the halo about the head of the figure represent the circle of devotees within the lodge. The head itself, with the spots for eyes and mouth, represents the large consecrated mescal which is placed upon a crescent-shaped mound of earth in the center of the lodge, this mound being represented in the figure by a broad curving line, painted yellow, forming the curve of the shoulders. Below is a smaller crescent curve, the original surface of the gourd, representing the smaller crescent mound of ashes built up within the crescent of the earth as the ceremony progresses. The horns of both crescents point toward the door of the lodge on the east side, which in the figure is toward the feet. In the center of the body is a round circle, painted red, emblematic of the fire within the horns of the crescent in the lodge. The lower part of the body is green, symbolic of the eastern ocean, beyond which dwells the goddess, and the star under her feet is the morning star, which heralds her approach. In her left hand is a figure representing the fan of eagle feathers used to shield her eyes from the glare of the fire during the ceremony."

This symbolism appears also in certain Pawnee (Caddoan) ceremonies described by Dorsey,[1] who says that the symbol of the gourd rattle is conceived as lying on the ground, between the altar and the fireplace, to which certain offerings are made. Thus the rattle symbolizes both the garden of the Evening Star[2] in the west and the

1. Dorsey, George A. Traditions of the Skidi Pawnee in Mem. Amer. Folk-Lore Soc. vol. 8, 1904.

2. Idem. Morning star or *tcuper ikata* (Bright Star), one of the great deities of the Pawnee. She transmits, through her four assistants,—Wind, Cloud, Lightning, and Thunder, the mandates of the Supreme Being, Tirawa,

Class IV
Sonorous
Substances
Division 1
Struck

road thither, as well as the road to the dead priests, the spirits of whom are conceived as being contained within the rattle itself, and symbolized by the pebbles in the gourd.[1]

Again in the Hako (Pawnee) ceremony described by Miss Fletcher[2] the gourd rattle represents the squash supplied by Tirawa, the Great Father, to his people. With the Pueblo Indians it is an important feature in the Snake Dance ceremony where it marks the rhythmic measure of the dance.

2792 RATTLE. A small pear-shaped gourd colored with turquoise blue and yellow pigment, a line of black around the circumference dividing the two colors. At the point where the short, thick wooden handle is inserted, the neck of the gourd is decorated with four groups of branching lines in black. Tribe: Hopi.

Length, 7 inches. Diameter, 3½ inches.

The Zuni have a gourd rattle, used in the Order of the Knife, which they call *a-tchi-a-kwe-a-wa tchi-mon-ne.* A specimen in the U. S. Nat. Museum Coll. No. 69,860. Another gourd rattle, used by this tribe in the *Ka Ka* sacred dance, is called *ka-ka-a-wen tchi-mon-ne.* U. S. Nat. Museum Coll. No. 69,263. The Cocopa (Yuman) Indians of the Pima Agency, Arizona, have a gourd rattle which they call *katchawa.* U. S. Nat. Museum Coll. No. 76,147.

3407 RATTLE. Made of a round gourd, a wooden handle inserted in the neck. The surface of the gourd is divided by black lines into four sections. In one of the lower sections is a butterfly with red and black wings and a white head on a background of green. Above this, the upper section has the terrace-cloud symbol, white on blue between two bands of bright red and yellow outlined in black, that tapers to the apex of the gourd. The lower section of the opposite side has the lightning symbol in blue on a white background, the upper section a symbolic arrangement of

to the people upon earth. She also maintains a garden in which are fields of ripening grain and many buffalo from which spring all streams of life. p. 19.

1. Dorsey, George A. Traditions of the Skidi Pawnee. Note 6, p. 329.

2. Fletcher. Bur. of Ethnol. 22d An. Rept. pt. 2, p. 47, pl. LXXXIX.

ANTELOPE PRIESTS IN SNAKE DANCE CEREMONY AT ORAIBI

PHOTOGRAPH BY A. C. VROMAN

angular bands in red, blue, yellow, and white outlined in black. Tribe: Zuni.
Length, 7¼ inches. Diameter, 4½ inches.
cf. Note to No. 606, page 169.
With the Hopi, black and white bands typify rain, red and blue bands, lightning. Bur. of Ethnol., 10th An. Rept. 1888–1889, p. 628. Wash. 1893.
One of the instructive objects taken from the north cemetery at Fourmile ruin (about two miles from Taylor, Arizona), was a rattle made of a small gourd. This rattle had an oval shape, and was decorated with red and green paint, on which was the impression of feathers. The handle, which was broken from the rattle, was not found. The occurrence of this gourd rattle, identical with those still used in Pueblo ceremonials, gives archaeological evidence of its use in ancient times, probably as an accompaniment to songs in religious rites. Fewkes. Bur. of Ethnol., 22d An. Rept., 1900–1, pt. 1, p. 163. Wash. 1904.

1964 RATTLE. Similar to No. 2792, the gourd colored dark blue, a band of red around the handle. Tribe: probably Sia. Family: Keresan. Locality: Rio Grande Pueblo, New Mexico.
Length, 11 inches. Diameter, 3¼ inches.
See note to No. 2792, p. 166.

3537 RATTLE. A globular gourd with a wooden handle which pierces it and projects at the top. Tribe: Seneca. Family: Iroquois. Locality: New York State.
Length, 11½ inches. Diameter, 4½ inches.
A similar rattle is illustrated and described by Hoffman[1] in his paper on the Mide'wiwin or Grand Medicine Society of the Ojibway. Among the Seneca Indians it is used in the Council House to mark the time in the ceremonial dances.
The gourd rattles are also used by the Comanche (Shoshonean). Bancroft[2] writing of this tribe, states that all festivities are incomplete without impromptu songs accompanied by cornstock or cane flutes, wooden drums, and calabash rattles.
Mr. E. H. Hawley furnishes the following detailed descrip-

. Bur. of Ethnol. 7th An. Rept. 1885–6, p. 191. Wash. 1891.
. The Native Races of the Pacific States of America, vol. 1, p. 516.

Class IV
Sonorous
Substances
Division 1
Struck

tion of the *onio-sa-ka-sta-we-sa* (U. S. Nat. Museum Coll. No. 221,155), a Seneca medicine rattle obtained from Andrew John, a Seneca Indian: "Body, a small bulbous gourd with a short neck. Handle of pine passing in the neck and out the flower end, a transverse pin through the outer end of handle retains the gourd. Used in the sacred medicine lodge of the Iroquois. The patient having applied for treatment to the medicine lodge, the medicine man goes to the patient with the lodge medicine powder; he then goes to the nearest running stream, sets the cup down on the bank and starts a little fire, puts a pinch of tobacco into the fire, at the same time invoking the Great Spirit to aid the medicine in making the patient well. After the invocation he sings a low peculiar song for the medicine, keeping time with his rattle. At the conclusion of the song he puts a small pinch of the medicine powder into the cup of water and the medicine is ready for the patient."

2735 RATTLE. A round gourd with a short neck, with five double lines of perforation which radiate from the center of the top. The neck is cut off near the body and a stout wooden handle inserted. Family: Piman. Locality: Mexico.

Length, 9 inches. Diameter, 2½ inches.

cf. Russell: Bur. of Ethnol. 26th An. Rept., 1904–1905, fig. 82, p. 168. Wash. 1908. The same author describes a disk rattle which resembles the Egyptian sistrum, and is used in the Navitco ceremonies in the village of Peeptcilt. It consists of a rod of wood, half of which is the handle, the upper part a framework in which two sets of four tin disks are strung loosely on wire. Its provenance is uncertain. U. S. Nat. Museum Coll. No. 218,066.

The Walpi of Sonora also use the sistrum form of rattle.

1756 RATTLE. A small round gourd pierced by a straight stick which projects at the top. The handle covered with beadwork. Tribe: Chippewa (Ojibwa). Family: Algonquian.

Length, 8 inches. Diameter, 1⅝ inches.

A similar rattle is used in the peyote ceremony of the Arapaho.[1]

1. See Kroeber. The Arapaho, IV, Religion. Amer. Museum of Nat. Hist. Bul. XVIII, pt. 4, p. 405, 1907.

ANTELOPE PRIEST IN CEREMONIAL GARB OF THE SNAKE DANCE AT WALPI
PHOTOGRAPH BY A. C. VROMAN

605 RATTLE. A round flat gourd with a straight wooden handle cut square. Tribe: Zuni. Family: Zunian. Locality: New Mexico.
Length, 11¼ inches. Diameter of gourd, 7 inches.

606 RATTLE. *Ah-yah.* Made from a flat gourd, the surface painted green; a Maltese cross, the emblem of the butterfly, is painted on each side in black and white and a band of black around the edge is intersected by crosses and parallel lines. Tribe: Hopi.
Length, 9 inches. Diameter, 6 inches.
cf. U. S. Nat. Museum Coll. No. 128,737.
Rattles of this type are used in the Snake Dance ceremonial.[1]
The butterfly is one of the symbols that figure in the snake ceremonies of the Hopi and is a form often used in decorating their pottery. Fewkes[2] describes the *ho-ko-na-ma-na*, the "butterfly virgin slab," as a piece of stone with rounded corners fourteen inches long, ten inches broad, and an inch and a half thick. This is decorated with a symbolic figure of the rain clouds, two butterflies, and several tadpoles, and is placed back of the altar in the position of a reredos.
In connection with this cross-shaped decoration it may be of interest to note that among the Blackfeet Indians of the United States, a belief is held that it was through the medium of dreams that the braves in olden times received instructions as to the decoration of their various implements: hence, if a chief dreamed of war, his drum or rattle received the butterfly emblem, which was the Greek cross. It is still the custom for the mother to embroider this emblem on a bit of buckskin, in bead or quill-work, and tie it in the child's hair when she wishes it to sleep; and it is often found embroidered on the "baby-boards" on which infants are strapped when carried on their mothers' backs. This emblem is also found among the Cheyennes. The Dakota use the Latin cross to denote the dragon fly, which insect is supposed to warn one of approaching danger.[3]

1. See Appendix, p. 273.
2. Journal of Amer. Ethnol. and Archaeol., vol. 4, p. 43.
Also Amer. Anthrop., vol. 3, 1901, p. 221.
3. Grinnell. Amer. Anthrop., vol. 1, 1899, p. 194.
cf. note to No. 633, p. 129.

Class IV
Sonorous Substances
Division I
Struck

The Hopi have various names for rattles: spherical gourd rattles *katana; ye-he-he-ai-ya; mu-shi-la.* The flattened gourd rattle *ah-yah* or *ai-ya; mo-sha-yes-ai-ya; sha-quoi-a-ya-ka-ch-na.* A cedar-berry rattle, *lepos-le-qua-be.* A wand with pendant olive shells, *mo-si-li-li,* and the moisture rattle, *pa-a-ya,* used in the flute observance. (Infn. E. H. Hawley, U. S. Nat. Museum.)

608 RATTLE. *Ah-yah.* A round flat gourd pierced by a wooden handle which passes through the sides. The surface painted white, the center, around the knob of the fruit, green. Tribe: Hopi.
Length, 11 inches. Diameter, 6½ inches.

609 RATTLE. Made from a warty gourd, the knobbed surface originally colored with a turquoise blue pigment. Tribe: Zuni.
Length, 11 inches. Diameter, 6½ inches.
cf. U. S. Nat. Museum, Coll. No. 99,006; also No. 41,856 illustrated in Bur. of Ethnol. 25th An. Rept. 1903–4, p. 371. Wash. 1907.

638 RATTLE. Similar to No. 3537, but with a shorter handle. Tribe: Zuni.
Length, 6½ inches. Diameter, 5 inches.

2759* RATTLE. A small gourd attached to a short wooden handle. Tribe: Zuni.
Length, 6 inches. Diameter of gourd, 3½ inches.

607 RATTLE. An oblong block of wood with three spreading prongs at one end which are united by crosspieces painted in blue, yellow, and red. At the opposite end of the block a small gourd rattle is fastened by a strip of buckskin. Tribe: probably Hopi.
Length of frame, 1 foot 3 inches. Length of gourd rattle, 6 inches. Diameter, 6 inches.

2736 RATTLE. A wooden cylinder pierced by a straight stick, the entire surface covered with beadwork. Two

*This instrument is placed with Class IV in the kindred instruments of the Historical Groups.

GOURD RATTLES. INDIANS OF THE UNITED STATES
PP. 162, 166, 169

small bells and strips of red cotton cloth decorate the handle. Family: Siouan.
Length, 1 foot.

3655 RATTLE. A cylindrical head, metal lined, pierced through its smallest diameter by a straight wooden handle covered with buckskin and bits of native weaving.
Length, 1 foot 4 inches. Diameter of head, 3 inches.

3341 POTTERY RATTLE. Pear-shaped form in black glazed pottery. Tribe: probably Tewa. Family: Tanoan. Locality: Santa Clara Pueblo, New Mexico.
Length, 6¼ inches.

The Tewa are a group of Pueblo Indians of the Tanoan family located in the valley of the Rio Grande in northern New Mexico. Bur. of Amer. Ethnol., Bul. 30, pt. 2, p. 737. Wash. 1910.

3342 POTTERY RATTLE. Pear-shaped form similar to No. 3341, in gray glazed pottery. Tribe: probably Tewa. Family: Tanoan. Locality: Tesuque Pueblo.
Length, 4¼ inches.

571 RATTLE. A leather thong covered with a fringe of dew-claws; at the end an eagle's claw and deer's tail. Tribe: Osage. Family: Siouan.
Length, 4 feet 10 inches.

The Osage (Wazhazhe), the most important southern Siouan tribe of the western division, are located in Missouri and Arkansas.

This is doubtless similar to the runner's rattle mentioned by Lumholtz[1] in use among the Tarahumara Indians of Mexico; it is described as follows: "The racers wear rattles of deer hoofs and bits of root tied together on a strip of leather, which they stick in the backs of their girdles or hang over their backs. The magic rattling keeps them from falling asleep while running."

In the Oraibi Snake Ceremony some of the dancers wear a "snake kilt" *tcu-vitkuna*, edged with fawn hoofs, also a belt, *wokokwava*, edged with pendant bits of petrified wood.[2]

1. Lumholtz. Unknown Mexico, vol. 1, p. 290.
2. Voth. The Oraibi Summer Snake Ceremony. Field Columbian Museum Publication, 83, Anthrop. Ser. vol. 3, p. 337. Nov. 1903.

Class IV
Sonorous
Substances
Division 1
Struck

Gilbert Thompson[1] describes a Pinon Dance of the Indians at Jemez, New Mexico, in which the costume consisted of foxskins, buckskins, corn, dried fruits, and boughs of the pine. "Their head-dresses were generally made of eagle feathers, while festoons of tortoise shells mingled with sheep toes dangled about their persons, making a singular rattling sound as they moved. In one hand each held a dry gourd in which was corn or pebbles."

3597 RATTLE. Similar to No. 571, but without the eagle claw.
Length, 6 feet.

3343 RATTLE. A wooden rod covered with buckskin to which are hung bits of black horn cut to imitate dew-claws. At the top a fringe of buckskin and at the opposite end a piece of fringed buckskin worked in blue and black beads.
Tribe: Chippewa.
Length of stick, 1 foot 3 inches.

According to Fewkes, rattles of this type with pendant shells appeared in the ancient ceremonial of the Tusayan. In an article on the Prehistoric Culture of Tusayan, he states that in prehistoric ceremonials, as today, the spire of the *Oliva angulata* was "cut into a conical bell and tied with others to the end of a rod to be used as a rattle with which to beat time to sacred songs." Shell rattles of this description appear in his illustration of the Flute Altar.[2]

The same author also states[3] that the conus were favorite shells for the manufacture of rattles, and they are still used for that purpose by the Hopi. The spire was ground away on a plane at right angles to the lip, making a conical object perforated at the apex. The larger specimens were probably tied to a short crook, and were used as rattles with which to beat time to the sacred songs. Smaller specimens, found in great numbers on some of the skeletons, served as tinklers, and were apparently tied to garments of the deceased in much the same fashion as the tin cones are appended to the kilts of the Snake priests in the Snake Dance.

1. An Indian dance at Jemez, New Mexico. Amer. Anthrop., vol. 2, 1889, p. 351.
2. Amer. Anthrop., vol. 9, 1896, p. 151.
3. Bur. of Ethnol. 22d An. Rept. 1900–1901, pt. 1, p. 91. Wash. 1904.

RATTLES. INDIANS OF THE UNITED STATES
PP. 172, 173

Still another form of the hoof or dew-claw rattle is illustrated and described by Kroeber.[1] This is the *tsööyanchin*, which figures in the Dog Dance of the Gros Ventre and is similar to that used by the Arapaho in the same dance. It differs from the ordinary wand rattle in that it has two prongs. The author describes it as follows: "Two sticks appear to have been joined at the handle so as to spread slightly. The sticks, when separate, are incased in skin painted yellow; at the handle they are wrapped together with a flat thong. Across each stick pass three strips of quill embroidery each consisting of a red row of quills bordered on each side by white. At the end of each fork hangs an eagle-wing feather, the base of its quill covered with red cloth. Along the lower side of each fork are the hoofs that rattle. There are on each stick about thirty-three pairs of these hoofs." The wrist cord attached to the handle is finished with a deer's tail.

726 RATTLE. A short stick covered with buckskin, hung with dew-claws. Tribe: Yankton. Family: Siouan. Length, 1 foot 3 inches.

This form of rattle is used by the Yankton Sioux and the Arapaho. See U. S. Nat. Museum Coll. Nos. 153,727; 165,760; 200,571; 165,765.

When a member of an Omaha society dies, his body is taken immediately to the lodge and placed in a sitting posture, while in his right hand is placed the *ta-sha-gae* or deer-hoof rattle, which is carried only by the leader of the society. The favorite songs of the deceased are then sung to rhythmic steps, while presents are laid on the drum,—offerings toward the funeral ceremonies. The funeral song, of which the Omaha have but one, is chanted by the young men of the village, who stand before the tent and mark time by striking together two short sticks.[2]

597 RATTLE. *Chegah-skah-hdah.* Conjurer's rattle. A slightly tapering stick covered with buckskin to which four small brass bells and tin cones are attached. Tribe: Siouan. Length, 1 foot 7 inches.

cf. Brown. Musical Instruments of North America, pl. I, fig. 2.

1. Amer. Museum of Nat. Hist. Anthrop. Papers, vol. 1, pt. 4, p. 256. 1908.

2. La Flesche, Francis. Death and funeral customs of the Omaha, in Journal of Amer. Folk-Lore, vol. 2, p. 3. 1889.

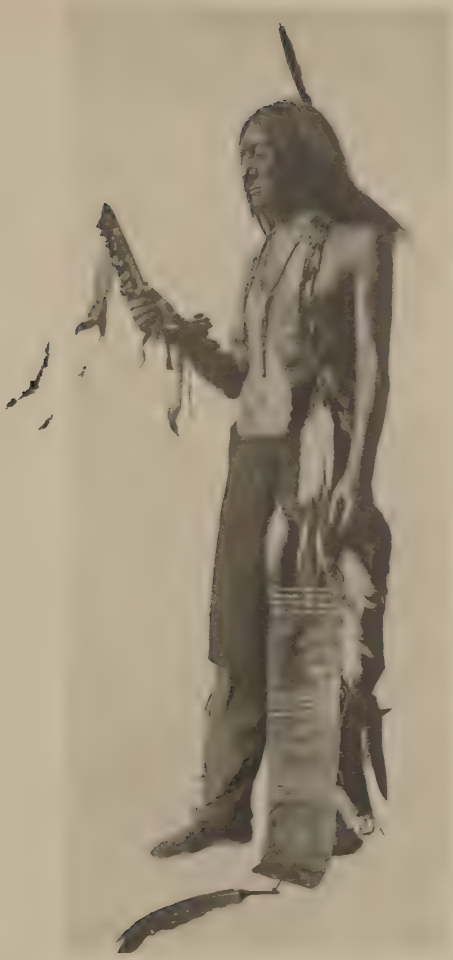
Class IV Sonorous Substances Division 1 Struck

569 BRACELET RATTLE. *Napo-kashke-yu-dha.* A band of buckskin to which are attached bits of hoof and tin cut in the form of arrow-heads and small cones. The skin fringed at one end. Family: Siouan.
Length, including fringe, 1 foot 4 inches.
This and the preceding specimen, No. 597, illustrate the modern type as developed from the primitive hoof rattle, the hoofs having been supplanted by bits of metal.

599 RATTLE. *Maẓa-rhda-rhda-hda-hda.* A pointed stick, the wood cut away leaving a small pavilion or open box near the upper end, in which is a revolving ball. Above and below this are loose wooden rings stained red and blue. Four brass sleigh bells. Family: Siouan.
Length, 1 foot 11 inches.
cf. Brown. Musical Instruments, pl. 2, fig. 5.
These are the "tappers" described by Robert O. Sweeny in an unpublished paper on the Sioux—"A smooth hard rod about 12 or 18 inches long held lightly with the fingers of the right hand taps briskly upon any sonorous object, such as the back of a bow, pipe stem, the blade of a tomahawk, or a buffalo rib. I have heard the tappers on a large number of tomahawks make wonderful music. By moving the fingers along the under side of the blade of a tomahawk the note is changed."

601 RATTLE. *Hanska-bugo-kah-ho-kah.* Similar to No. 599. The top carved in the form of a head. The pavilion with a division in the center and two balls. Family: Siouan.
Length, 2 feet 3½ inches.
cf. Brown. Musical Instruments of North America, pl. 2, fig. 6.

634 RATTLE. *Kah-to-to-hay.* A piece of polished horn shaped like a spoon with a long handle. The rattle is formed by a number of blue porcelain beads and a small sleigh bell tied on with a strip of buckskin. A common instrument among the Sioux. The player taps briskly upon a blade of a tomahawk or other sonorous objects. Family: Siouan.
Length, 1 foot 7½ inches.
cf. Brown. Musical Instruments of North America, pl. 2, fig. 9.



ARAPAHO IN THE COSTUME OF THE DOG DANCE
REPRODUCED BY COURTESY OF THE AMERICAN MUSEUM OF NATURAL HISTORY

603 RATTLE. *Napo-shampidah-hah.* Made from an umbrella handle with a flat metal top. The stick wound with plaited porcupine quill stained red, yellow, and blue. A bunch of thimbles, four small bells, and some gilt beads tied near the center. Two quill cords finished with tassels made of dried grass stained yellow, the heads small tin cones. Family: Siouan.
Length, 1 foot 7 inches.
cf. Brown. Musical Instruments of North America, pl. 2, fig. 4.

3249 RATTLE. *Li-ba-li-ba-ba.* (Acorn lipper.) Acorns strung on a cord held in place at each end by a wooden nut. Family: Yukian. Locality, California.
Length, 3 feet 5 inches.
This rattle was collected by Mr. S. C. Simms of the Field Columbian Museum, who describes its use as follows: "Hold the string of the lipper so that one terminal nut touches the pursed lips and partly open teeth. The other hand at the opposite extremity of the string twirls the whole string so that this one nut strikes the lips and edge of teeth producing a varying pitch of sound within the mouth. It is audible at quite a distance, and when the instrument is seasoned and dry it is quite pleasant to the ear as a concord of gurgling notes."

3248 RATTLE. *Kai-ye-ye.* A bunch of feathers and cocoons filled with pebbles, the quills of the feathers bound together with a strip of buckskin forming the handle. Used by the medicine men. Family: Yukian.
Length, 9 inches.
Roland B. Dixon describes a cocoon rattle found among the Northern Maidu (Pujunan) of California, as follows: "It was made like the deer-hoof rattles, merely substituting the cocoons of the *attacus californicus* for the hoofs. The cocoons had gravel or small pebbles in them, and produced a soft, sibilant rustling when shaken. These rattles were used only for ceremonial purposes, and as a rule by shamans alone. They were always used in praying to the *ku'kini* or spirits."

1970 RATTLE. Two cocoons filled with bits of glass, doubtless originally fastened to a wooden wand. Tribe:

Class IV
Sonorous
Substances
Division 1
Struck

Klamath. Family: Lutuamian. Locality: Northern California.
Length, 2 inches.

The Miwok (Mariposan) Indians of Central California use a rattle made of two cocoons fastened to the end of a wooden wand. Peabody Museum (No. 64,521), Cambridge, Mass. The Maidu (Pujunan) shaman also uses a similar rattle. Amer. Museum of Nat. Hist. Coll. No. 50/4031.

1971 WICKER RATTLE. A mat of plaited straw folded so as to form a triangular receptacle with closed ends, holding pebbles or seeds. Tribe: Bannock. Family: Shoshonean. Locality: Northern California.
Length, 1 foot 3½ inches. Diameter, 4½ inches.

2771 RHOMBUS or BULL-ROARER. *Tʒi-ditiadi* (sounding wood). An oblong strip of pine with irregular serpentine lines on one side, on the other side a grotesque drawing in outline of a human figure. Tribe: Apache. Family: Athapascan. Locality: New Mexico. Reproduction. Original in the U. S. Nat. Museum, Washington, D. C.
Length, 8⅜ inches. Width, 1⅜ inches.

John G. Bourke,[1] who made a study of the medicine men of the Apache, illustrates and describes the use of the rhombus among the tribes of the North American Indians and other peoples. We quote in full his notes on the subject:

"The rhombus was first seen by me at the Snake Dance of the Tusayan, in the village of Walpi, Ariz., in the month of August, 1881. Previous to that date I had heard of it vaguely, but had never been able to see it in actual use. The medicine man twirled it rapidly, and with a uniform motion, about the head and from front to rear, and succeeded in faithfully imitating the sound of a gust of rain-laden wind. As explained to me by one of the medicine men, by making this sound they compelled the wind and rain to come to the aid of the crops. At a later date I found it in use among the Apache, and for the same purpose. The season near the San Carlos Agency during the year 1884 had been unusually dry and the crops were parched. The medicine men arranged

1. The Medicine Men of the Apache. Bur. of Ethnol. 9th An. Rept., 1887–'88. p. 476 ff. Wash. 1892.

a procession, two of the features of which were the rhombus and a long-handled cross. . . . Again, while examining certain ruins in the Verde Valley in Central Arizona, I found that the 'Cliff Dwellers,' as it has become customary to call the prehistoric inhabitants, had employed the same weapon of persuasion in their intercourse with their gods. I found the rhombus also among the Rio Grande Pueblo tribes and the Zuni. Dr. Washington Matthews has described it as existing among the Navaho and Maj. J. W. Powell has observed it in use among the Utes of Nevada and Utah. As will be shown, its use in all parts of the world seems to have been as general as that of any sacred implement known to primitive man, not even excepting the sacred cord or rosaries. . . . Three forms of the rhombus have come under my own observation, each and all apparently connected in symbolism with the lightning. The first terminates in a triangular point, and the general shape is either that of a long, narrow parallelogram, capped with an equilateral triangle, or else the whole figure is that of a slender isosceles triangle. Where the former shape was used, as at the Tusayan Snake Dance, the tracing of a snake or lightning in blue or yellow followed down the length of the rhombus and terminated in the small triangle, which did duty as the snake's head. The second pattern was found by Dr. Matthews among the Navaho, and by myself in the old cliff dwellings. The one which I found was somewhat decayed and the extremity of the triangle was broken off. There was no vestige of painting left. The second form was serrated on both edges to simulate the form of the snake or lightning. The third form, in use among the Apache (see No. 2771) is an oblong of seven or eight inches in length, one and a quarter inches in width by a quarter in thickness. One extremity, that through which the cord passes, is rounded to rudely represent a human head, and the whole bears a close resemblance to the drawings of schoolboys, which are intended for the human figure. The Apache explained that the lines on the front side of the rhombus were the entrails and those on the rear side the hair of their wind god. The hair is of several colors, and represents the lightning. I did not ascertain positively that such was the case, but was led to believe that the rhombus of the Apache was made by the medicine men from wood, generally of pine

Class IV
Sonorous
Substances
Division 1
Struck

or fir, which had been struck by lightning on the mountain tops. Such wood is held in the highest estimation among them and is used for the manufacture of amulets of especial efficacy. The Apache name for the rhombus is *tzi-ditindi*, the 'sounding wood.' The identification of the rhombus or 'bull-roarer' of the ancient Greeks with that used by the Tusayan in their Snake Dance was first made by E. B. Taylor in the Saturday Review in a criticism upon 'The Snake Dance of the Moquis of Arizona.'[1]

"The Kaffirs have the rhombus among their playthings:

'The *nodiwu* is a piece of wood about 6 or 8 inches long, and an inch and a half or two inches wide, and an eighth or a quarter of an inch thick in the middle. Towards the edges it is beveled off, so that the surface is convex, or consists of two inclined planes. At one end it has a thong attached to it by which it is whirled rapidly round. . . . There is a kind of superstition connected with the *nodiwu*, that playing with it invites a gale of wind. Men will, on this account, often prevent boys from using it when they desire calm weather for any purpose. This superstition is identical with that which prevents many sailors from whistling at sea.'

"Of the Peruvians we are informed that 'their belief was that there was a man in the sky with a sling and a stick, and that in his power were the rain, the hail, the thunder, and all else that appertains to the regions of the air, where clouds are formed.'

"The sacred twirler of the snake dance is found in Greece, America, Africa, and New Zealand. It survives as a toy in England and the United States. The same peculiar instrument has been noticed in the religious ceremonials of the Australians (cf. No. 738), especially in the initiatory rites of the 'bora.' It is called '*tirricoty*.' The twirling of the *tzi-ditindi* in medicine or prayer corresponds to the revolution of the prayer wheel of the Lamas."

1. The bull-roarer used by the Snake and Antelope fraternities at Mishognovi is called *towokingpiata*. It is used on the eighth day of the snake ceremonies with the "lightning frame" (*talawihpika*), a pivoted framework that can be extended or contracted at will by a series of joints operated by two handles like those of a pair of shears. The bull-roarers are twirled by two men who stand on the roof of the kiva and "shoot" the lightning frame four times to the points of the compass.
cf. Voth. Field Columbian Museum Pub. 66, Anthrop. Ser. vol. 3, p. 228. 1901.

HOPI FLUTE PRIEST WITH BULL-ROARER IN HIS RIGHT HAND
PHOTOGRAPH BY A. C. VROMAN

John Murdoch[1] in his report on the Point Barrow Eskimo states that the "whizzing stick" is found among these people by whom it is called *imiglüta*, (*im-ig-luk-ta*, U. S. Nat. Museum, Coll. No. 89,800); it seems to be simply a toy, however, and does not appear to be used by the adults in their ceremonials.

2772 RHOMBUS or BULL-ROARER. *Tsin-ce'nr*. (Groaning stick). A flat stick pointed at one end, painted black and covered with specular iron ore. Tribe: Navaho. Family: Athapascan. Locality: New Mexico and Arizona. Reproduction. Original in the U. S. Nat. Museum Coll. No. 215,656.

Length, 9 inches. Width, 1¾ inches.

Illustrated and described by Dr. Washington Matthews[2] in his paper on The Mountain Chant, a Navaho ceremony: "The instrument designated as the whizzer is a thin, flat, pointed piece of wood painted black and sparkling with the specular iron ore which is sprinkled on the surface; three pieces of turquoise are inlaid in the wood to represent eyes and mouth. One whizzer which I examined was nine inches long, one and three-fourths inches broad, and about a quarter of an inch thick in the thickest part. To it was attached a string about two feet long, by means of which the centrifugal motion was imparted to it. It is called by the Navaho *tsin-ce'nr* or groaning stick. It is used among many tribes of the southwest in their ceremonies. The Navaho chanters say that the sacred groaning stick may only be made of the wood of a pine tree which has been struck by lightning."

J. W. Fewkes[3] describes the use of the "whizzer" in the Walpi Flute Ceremonies, and gives as its name *ü-muk-pi*. The Bushmen[4] of South Africa use it, like the Hopi, as a rain charm.

3179 RHOMBUS or BULL-ROARER. A flat strip of wood rounded at one end. Tribe: Hopi.

Length, 12¾ inches. Width, 1¾ inches.

1. Murdoch. Bur. of Ethnol. 9th An. Rept. 1887–1888, p. 378. Wash. 1892.

2. Matthews. The Mountain Chant. Bur. of Ethnol. 5th An. Rept. 1883–1884, p. 436. Wash. 1887.

3 Fewkes. Jour. of Amer. Folk-Lore, vol. 7, 1894, p. 269.

4. Ratzel. The History of Mankind, vol. 2, p. 275. Von den Steinen, p. 498.

Class IV Sonorous Substances Division I Struck

3121 BUZZER. *Hateikuucan* or *Hati-ku-tha*. A bone, the knuckle or joint of a cow, wound around with a buckskin cord on each end of which is a short stick. Tribe: probably Arapaho.

Length of sticks, 3¼ inches; bone, 1½ inches.

In sounding the buzzer the sticks at the ends of the thong are held one in each hand and the bone is swung around, twisting each end contrariwise; if the hands are then suddenly jerked apart, the bone revolves and by reducing the tension the moment the twist is out of the thong, the momentum causes it to retwist, and the action may be continued at the pleasure of the player.

A similar specimen in the Amer. Museum of Nat. Hist. Coll. No. 50/3110. This form is also used by the Gros Ventres.[1] The bull-roarer "breeds wind," and is called *nakaantan* by this tribe, meaning "making cold," a name given also to the thermometer. With the Gros Ventres and also the Arapaho it is used as a toy among the children.

Kroeber[2] describes a bull-roarer of the Arapaho as follows: "The bull-roarer itself is of bone, a little more than an inch wide, and only four or five inches long. Neither end is pointed. The end to which the string is attached is cut off squarely, and the opposite end is deeply notched. Along each side there are about a dozen notches. . . . The implement is quite different in form from the longer, pointed wooden bull-roarer."

A bone buzzer made of the foot bone of a cow, and called, like a bull-roarer, *hateikuucan*, is sometimes used in the Ghost Dance to start the singing. Some of these have a few holes; three holes in a row were said to represent the three stars of Orion, called by the Arapaho "buffalo bulls."

3372 RATTLE. *Patcikyopi* or *Zhegunpi-hopi*. Notched stick with bone scraper and gourd resonator. A flat stick with the surface cut in grooves and a large bottle-necked gourd with an opening cut in one side. Tribe: Hopi.

1. Kroeber. Ethnology of the Gros Ventre. Amer. Museum of Nat. Hist. Anthrop. Papers, vol. 1, pt. 3, 1908, p. 190.
Idem. Decorative Symbolism of the Arapaho. Amer. Anthrop. New Ser. vol. 3, 1901, p. 308.

2. Idem. The Arapaho Ceremonial Organization. University of Calif. Bul. 18, p. 396 ff. 1905.

Family: Shoshonean. Locality: Oraibi, Northern Arizona. Length of stick, 1 foot 2 inches. Gourd, 1 foot 7 inches. Diameter, 6¼ in.

When in use the gourd is held between the knees or rested on the ground and serves as a resonator. The performer places the notched stick against the opening of the gourd and with his right hand passes a bone rapidly over its corrugated surface. The bone "scraper" is usually the shoulder blade of a deer or sheep, or thigh bone of a rabbit. The notched stick is an instrument that dates back to great antiquity. Among primitive peoples it is used in marking the rhythm of the dance, but in ancient China it was used in the Confucian ceremonies and occupied a position of prominence on the west side of the temple. Its native name in China is *yü*, and it is of carved wood in the form of a recumbent tiger on a rectangular box. On the back of the tiger are twenty-seven teeth, resembling a saw, and at certain points in the service the tiger is struck three times on the head with a beater made of split bamboo which is rapidly passed over the projections on the back.[1] In Japan a similar instrument is called *gyo*.[2] Carl Lumholtz,[3] in writing of Unknown Mexico, refers to the notched stick rattle found among the Huichol Indians of Mexico, who use two notched deer bones as an accompaniment to the hunting song. In this instance the "scraper" was a bone, as in Nos. 3372, 3147. In the same volume Lumholtz makes the following interesting remarks on the antiquity of this form of instrument as evidenced by excavations made in Mexico when a number of models of musical instruments were unearthed: "I first believed that these bones were taken from enemies killed in battle and worn as charms to give the victor the strength of the vanquished foe and thereby luck in fighting. It seemed, however, to be the consensus of opinion that the bones were musical instruments, an opinion which has been corroborated by the discovery in 1898 of notched deer bones in use among the present Huichol Indians. Any further doubt in this matter is removed by an interesting find made in the course of the

1. Van Aalst. p. 74; Asia. No. 2272.

2. Asia. No. 2272.

3. Unknown Mexico. vol. 2, p. 155, Mem. Amer. Museum of Nat. Hist. vol. 3, p. 206.

Class IV
Sonorous
Substances
Division I
Struck

excavations behind the Cathedral of Mexico in the autumn of 1900. Mr. M. H. Saville, who was present then, informs me that representations in clay of notched human bones (femurs) were found with similar representations of Aztec musical instruments,—the horizontal wooden drum, the rattle, the turtleshell, the flageolet (*chirimia*). They were all of rude earthenware and were more or less uniform in size. There were several specimens of each instrument and the whole collection numbered about a hundred objects. Thus the purpose of the notched human bone is clearly shown, and even the instrument with which it was rubbed is reproduced in relief along one side."[1]

Thompson,[2] in describing an Indian dance at Jemez, New Mexico, states that the dancers numbered about thirty, with three musicians who sat upon the ground. "Before two of them were placed large gourds, portions of which had been cut away. In the left hand each held a round stick firmly pressed across the open top of the gourd, and across these each drew a notched stick."

Bancroft[3] shows this instrument resting on an inverted pan, which he states is sometimes replaced by the shell of a gourd. The same author[4] quotes extracts from the diary of Dr. P. G. S. TenBroeck, who visited the Hopi in 1852, in which he mentions the use of the notched stick as an accompaniment to one of the ceremonial dances: "Young men dressed as women and seated on blankets had each a large hollow gourd placed before him, on which rested a grooved piece of wood shaped like an old-fashioned washboard; and by drawing the dry shoulder blade of a sheep rapidly across this, a sound was produced similar to that of a watchman's rattle."

James Stevenson[5] gives *truh-kun-pi* as the Hopi name for the notched stick rattle.

Still another and slightly differing form of this instrument[6]

1. Lumholtz. Unknown Mexico, vol. 2, p. 429 ff.
2. Thompson. An Indian Dance at Jemez, New Mexico. Amer. Anthrop. vol. 2, p. 351, 1889.
3. Bancroft. The Native Races of the Pacific States of America, vol. 2, p. 75.
4. Idem, vol. 4, pp. 83–84.
5. Bur. of Ethnol. 2d An. Rept. 1880–1881, p. 319. Wash. 1883. Also Wilson. Prehistoric Art, p. 586.
6. Amer. Anthrop. vol. 9, 1896, p. 241.

is mentioned by Verner Z. Reed in his description of the Ute Bear Dance which he witnessed in March, 1893, given by members of the Southern Ute tribe on their reservation in Colorado. The Utes believe that their primal ancestors were bears and they regard this as the wisest of animals and the bravest of all except the mountain lion. When a bear dance is given, "the squaws hew *moraches* or 'singing sticks' out of wood to be used during the dance ceremony. These sticks are shaped like the jaw of an animal[1] and teeth-like protuberances are left over with which to grate bones or sticks of wood. The men gather timber and pine boughs to make the inclosure in which the dance is held; this is called *a-vik-wok-et*, or 'cave of the sticks.' It is from 100 to 150 feet in diameter, is circular, and is meant to represent a bear cave. It has one opening, always to the south or southwest, facing the sun, as the bears in choosing their winter quarters are said to select caves into the mouth of which the sun shines part of the day." There are from eight to fourteen musicians who sing and perform upon the notched stick constantly during the dance, which lasts four days and one night, the time required by bears to recover from hibernation. These musicians are placed at one side of the inclosure where a circular hole is made in the ground hollowed out in the form of an underground cave. Over this a box or drum with an open bottom is placed and around this the musicians group themselves. Each holds a *morache* with one end resting in his lap and the opposite end braced against the box while the notched surface is rubbed with a piece of bone or wood. Should a dancer fall, the music stops instantly until he has been "doctored" by the shaman, who approaches, and with the *morache* charms away the evil that would otherwise befall the unlucky dancer.

In Spain and Cuba the *maruga* is a form of this type, made of a tin cylinder with pointed ends and corrugated surface; this is rubbed with pieces of wire. The *guiro*, still another form, is made of a long-necked gourd with lines cut in the surface while the gourd is still green. The scraper is a small stick and the instrument is used to accompany the guitar.

Mr. E. H. Hawley, writing in the American Anthropol-

1. Among the negroes of the Southern States the jaw bone of a mule or horse is used in the same way, a stick being rubbed over the teeth.

Class IV
Sonorous
Substances
Division I
Struck

ogist[1] on the Distribution of the Notched Rattle, records the *pam-pu-ni-wap* of the Ute Indians, the *truh-kun-pi* of the Hopi, the *guiro* of the West Indies; and from the Indians of the Amazon a notched bamboo or cane rubbed by a stick (in some instances a bone), called *claracarsha*. The same author also describes the *charra* or *kwatscha* found among the Usambara of Africa, the latter, "a solid piece of wood from which is lightly bent a notched stick over which another stick is stroked, producing a horrible sound."

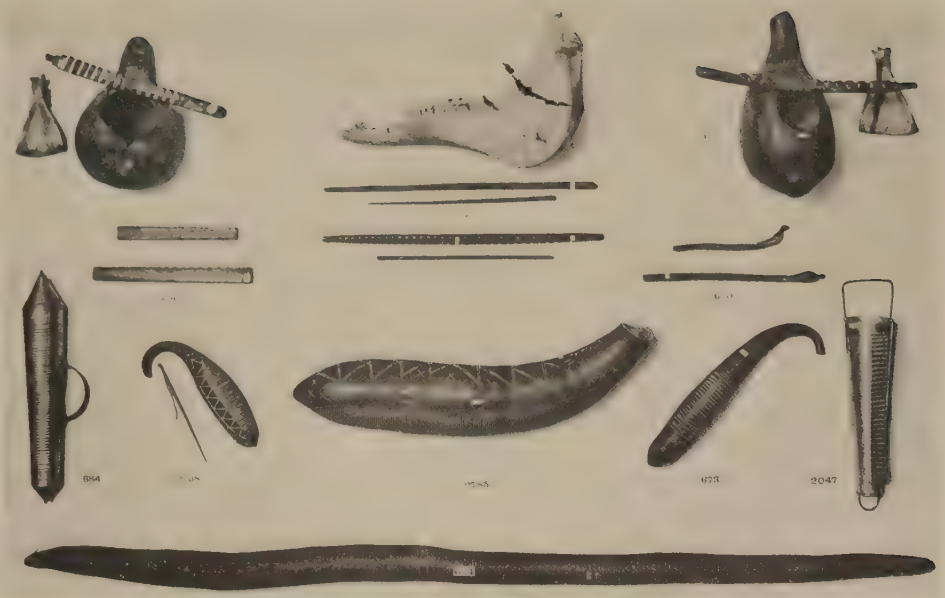
The Bhuiyars, an aboriginal tribe in the Mirzapur Hills, India, have a combination musical bow and notched stick; the string is of twisted bark and the bow has a row of notches along one edge over which a stick is rubbed, producing a rasping noise and throwing the string into vibration. When played upon, one end of the bow rests on the ground, the other upon a basket inside of which a metal pot is placed which acts as a resonator.

1972 RATTLE. *Patcikyopi* or *Zhegunpi-hopi*. Notched stick with bone scraper and gourd resonator. Similar to No. 3372. Tribe: Hopi. Length of stick, 1 foot 4½ inches. Gourd, 1 foot 2½ inches. Diameter, 6¼ inches.

670 RATTLE. Notched stick and scraper. A straight stick with serrated edge, the end carved in the form of a bird. The scraper, a stick with the end similarly carved. Tribe: Pueblo. Locality: probably San Domingo, Mexico. Length of stick, 1 foot 1 inch. Length of beater, 8¾ inches.
cf. Mahillon. Catalogue, vol. 3, p. 250, No. 1720.
U. S. Nat. Museum Coll. No. 176,377.

3147 RATTLE. *Ga-no-ska*. A straight flat stick with the narrow edge serrated. The scraper, a flat narrow stick. Tribe: Seneca. Family: Iroquoian. Locality: New York State. Reproduction. Original in the U. S. Nat. Museum, Washington, D. C.
Length of stick, 1 foot.

1. Amer. Anthrop., vol. 11, p. 344, 1898.



NOTCHED STICK RATTLES. AMERICAN TYPES
PP. 180, 184, 203, 204, 221, 222, 223

AMERICAN FOLK-INSTRUMENTS

CLASS I STRINGED INSTRUMENTS

598 BANJO. A gourd body with a round opening cut in one side over which a piece of sheepskin is fastened with glue and tacks. The finger-board is finished with a carved scroll in which four pegs are inserted, the fifth string being attached to a peg placed in an ornamental scroll work on the side of the neck. The strings are secured to a piece of leather that is slipped over a wooden peg projecting from the bottom of the gourd. Four strings of black thread and the fifth of horsehair.

Section A Plucked Strings

Length, 3 feet. Diameter of the gourd, 7½ inches.

The banjo in its primitive form, supplemented by the bone clappers, was the usual accompaniment to the melodies and "clog dances"[1] popular with the negroes of the southern plantations. It is doubtless an importation that owes its origin to the slave trade established in the East and West Indies by the Portuguese as early as 1442, and that later obtained a footing on the mainland of North America in 1620, when a Dutch trade ship landed a cargo of negro slaves at Jamestown. The derivation of the name has been variously attributed to a corruption of *banjore* or *bandore*, and to the name of a town *Ban Joemas*, on the Island of Java.

3296 BANJO. Circular wooden frame with a head of goat-skin held in place by a wooden hoop.

Length, 3 feet. Diameter of gourd, 9 inches.

This specimen represents the prototype of the modern

1. A dance in which the feet are made to perform a noisy accompaniment to the music, the shoes (clogs) of the performer having wooden heels and soles.

Class I
Stringed
Instruments
Section A
Plucked
Strings

circular banjo. It was constructed by an old negro on a plantation in Georgia and is the form that was originally in common use among plantation negroes. The body is made from the rim of a sieve; the hide was cured from a goat raised by the negro, and the wood of the neck from a tree of his own planting.

2820 BANJO. Primitive form similar to No. 3296, with the addition of a metal rim and six clamps. Five wire strings.
Length, 2 feet 8 inches. Diameter, 12½ inches.

2851 BANJO. Metal body, the rim fastened by sixteen clamps.
Length, 2 feet 10 inches. Diameter, 11 inches.

2677 BANJO. A convex metal frame with parchment head, the tension of which is regulated by a screw in the back. The long, flat neck of hard wood with a veneer of unpolished ebony.
Length, 3 feet. Diameter, 12½ inches.
Gift of H. McCord, 1901.

2676 BANJO. Metal frame with walnut neck and a finger-board of ebony veneer. The tension of the membrane is regulated by a patent mechanism operated from a central screw at the back.
Length, 2 feet 11 inches. Diameter, 11½ inches.
Gift of H. McCord, 1901.

602 BANJO. Circular metal body with a neck of wood. The parchment head secured by a metal rim and six clamps. Five gut strings. Similar to No. 2820 but a smaller model.
Length, 2 feet 1 inch. Diameter, 7½ inches.

2887 BANJO. Circular body with a neck of unpolished ebony. Sixteen metal clamps. Five gut strings.
Length, 1 foot 10 inches. Diameter, 7½ inches.

551 BANJO. Wooden frame and neck, the finger-board inlaid with different woods. The membrane is held in place by a band of leather fastened with brass tacks. Six gut strings.
Length, 2 feet 6½ inches. Diameter, 11 inches.
Possibly from the West Indies or Central America.

BANJOS. AMERICAN FOLK INSTRUMENTS
PP. 185, 186

3547 BANJO. Wooden frame with a neck of polished wood that terminates in a carved head of negroid type. The neck is pierced for five pegs, and one on the side. The finger-board is inlaid with different woods. Pegs, strings, and clamps missing. Class I Stringed Instruments Section A Plucked Strings
Length, 3 feet 1½ inches. Diameter, 11½ inches.
Possibly from Central or South America.

2767 MANDOLINE. Made from a long-necked gourd, a section of the gourd removed and the opening covered by a wooden sound-board. The neck and finger-board of wood. Eight wooden pegs, four placed at the back of the top or scroll and two at each side; these carry eight fine wire strings arranged in pairs. A small bone plectrum attached to the bridge by a cord.
Length, 1 foot 11 inches. Width, 5½ inches.

2821 MANDOLINE. Similar to No. 2767.
Length, 2 feet 6½ inches. Width, 5½ inches.
These gourd mandolines are popular among the poorer white element resident in the mountainous districts of the Southern States, especially Georgia.

2495 FIDDLE. Made from a section of a cornstalk; two strips of the fibre are separated from the main stalk and form strings on the same principle as that of the marouvane of Africa. Bow missing. Section C Bowed Strings[1]
Length, 1 foot. Diameter, ¾ inch.
This is a primitive instrument allied to the Apache fiddle (p. 105), and on a par with the straw flutes used by the peasant children of Bohemia and elsewhere.

CLASS II WIND INSTRUMENTS

1347 PANPIPES. Calliope. Seven small tubes of bamboo bound together with cord. Section A Whistles
Length of longest tube, 4½ inches. Shortest, 2 inches.

3295 PANPIPES. Calliope. Five small tubes similar to No. 1347.
Length of longest tube, 4⅛ inches. Shortest, 2⅜ inches.

1. Section B not represented.

Class II Wind Instruments Section A Whistles

2852 WHISTLE. Ozee. A pair of wooden discs fitted closely together. The edges of these are placed in the mouth and the breath passing between the two discs forces them apart and produces a reedy tone. Reproduction. Original in the U. S. Nat. Museum.
Diameter, 3 inches.

2853 WHISTLE. Similar to No. 2852. Reproduction. Original in the U. S. Nat. Museum.
Diameter, 2 inches.

CLASS IV SONOROUS SUBSTANCES[1]

1351 RATTLE. Made from the jaw bone of a mule. The sound is produced by rubbing a stick over the projecting teeth.
Length, 11 inches. Width, 8 inches.
This embodies the same principle as the notched stick rattle and is used by the southern negroes to accompany their songs. cf. No. 3372, note 1, p. 183.

1348 CLAPPERS. Two flat bones of cow-rib. They are naturally curved and strike on a small area.
Length, 5¼ inches each.
This type of rattle is very popular among the negroes and is often made of wood. It is used to mark time in the "clog dance," and in the hands of an expert the sound produced resembles that of the roll of a military drum.

1. Class III not represented.

MEXICO

The musical instruments that appear in the codices of old Mexico, together with the various forms of whistles and rattles collected by archaeologists, furnish interesting material to the student of primitive music. The prehispanic wind instruments that exist today in various museums show that the natives early had a knowledge of a musical scale, as has been proved by C. K. Wead,[1] G. W. Mead,[2] and others. The musical instruments carried by the musicians in the illlustrations of the early manuscripts are described by Seler under the following names: *teponaztli*, wooden drum; *tlalpan-ueuetl*, upright wooden drum with skin head struck with the hands; *ayacachtli*, gourd rattle; *tlapitzalli*, *tilacapitztli* or *cocoloctli*, flute; *tecciztli*, or *quiquiztli*, conch shell; *omichichauaztli*, notched stick. These, it will be seen, consist of wind instruments and instruments of percussion. The large wind instruments shown may have been of pottery or conch shell, specimens of which are preserved in the Peabody Museum at Cambridge and in the Trocadéro Museum, Paris; or inasmuch as they had gourd rattles, they may have been of gourd similar to the trumpets found in Guiana. Concerning the existence of stringed instruments in prehispanic days, the early documents furnish no evidence. The illustration in the Codex Becker identified by Saville as a musical bow, is held by other authorities to be the tortoise-shell drum such as is found on the Isthmus today, and in regard to this point Dr. Seler[3] writes as follows:[4] "Dem gegenüber hat nun Marshall H. Saville in einem neuer-

1. Wead. Contributions to the History of Musical Scales. Bur. of Ethnol. An. Rept. 1900, p. 417. Wash. 1902.

2. Mead. Musical Instruments of the Incas, p. 11.

3. Ed. Seler. Mittel-amerikanische Musikinstrumente, in Globus, 76, 1899, pp. 109–110.

4. The passage translated reads as follows:
In opposition to this Marshall H. Saville in a lately published article has tried to bring proof that the picture of the one-stringed bow serving as musical instrument is already to be found in an old American manuscript,

dings veröffentlichten Artikel den Nachweis zu führen gesucht, dass der mit einer Saite bespannte, als Musikinstrument dienende Bogen schon in einer altamerikanischen Handschrift abgebildet zu finden sei, und zwar in dem Codex Becker, einer Handschrift, wahrscheinlich mixtekischen Ursprungs, die mit dem Codex Dorenberg oder Códice Colombino zusammen gehört, und von der eine mit der Hand gemachte Kopie von Henri de Saussure unter dem Namen 'Manuscrit du Cacique' veröffentlicht worden ist. Ich gebe in der Abbildung das Orchester wieder, auf das sich Saville bezieht. Nur ist diese Zeichnung nicht, wie die Savillesche, nach der de Saussureschen Kopie, sondern nach einer vom Original genommenen Photographie gemacht worden. Nach der Savilleschen Deutung hielte die sechste, die letzte der hier dargestellten Personen, den 'Musikbogen' unter dem linken Arm und in der rechten einen gegabelten Stab, der zum Anschlagen der Saite dienen soll. Da der ganze Raum zwischen dem angeblichen Bogen und seiner angeblichen Sehne mit blauer Farbe gemalt ist, ist es mir eigentlich schwer verständlich, wie Saville überhaupt darauf kommen konnte, hier ein den oben beschriebenen ähnliches Instrument zu sehen. Auch die Art, wie das Instrument gehalten wird, ist mit der Deutung als 'Musikbogen' absolut nicht zu vereinen. Meiner Ansicht nach umfasst der Spieler mit dem linken Arm das Gehäuse einer Schildkröte, und er hält in der Rechten ein Hirschgeweih, mit dem er die nach vorn gehaltene Bauchseite des Schildkrötenpanzers bearbeitet. Ich meine, die etwas spreizenden Randschuppen des Schildkrötenpanzes in der Photographie, trotz der starken Abblätterung, die gerade diese Figur im Original zeigt, deutlich zu erkennen."

Hamy, in his work on the American exhibit at the Trocadéro

the codex Becker, a manuscript probably of Mixtec origin and belonging to the codex Dorenberg or codice Colombine, and of which a handmade copy by Henri de Saussure has been published under the name of Manuscript du Casique. I show in the illustration the orchestra to which Saville refers. However, this drawing has not been made after the copy by Saussure as that of Saville but after a photograph of the original. According to the explanation of Saville the sixth and last of the persons here represented would hold the "musicbow" under the left arm and in the right one a forked stick serving to touch the string. As the whole space between the supposed bow and the supposed string is painted in blue color, it is really hard for me to conceive how Saville could get the idea to see here an instrument similar to the one described above. The way the instrument is held does absolutely not conform with the explanation as "musicbow." In my opinion the player encircles the shell of a tortoise with the left arm and holds in the right hand the antlers of a deer with which he strikes the bottom of the tortoise-shell holding the bottom to the front. I seem to recognize distinctly the somewhat spreading border-scales of the tortoise-shell in the photograph in spite of the strong peeling off which just this figure shows in the original.

Museum, gives the following description of early Mexican instruments:[1] "Les Mexicains se servaient encore d'une sorte de claquette, l'*omichicahuaztli*, faite avec des os (*omitl*) ou des bois de cerf taillés; l'*ayacachtli* et le *tetzilacatl*, hochets ou grelots formés d'une boule creusé en terre ou en metal munie de petites pierres a l'intérieur et terminée par un manche ou par un anneau; l'*ayacachtli caualiztli* ou *nacalt quauitl*, 'planche de deux brasses de long sur un empan de large, a laquelle étaient attachés des grelots, de distance en distance, et des morceaux de bois cylindres destinés à produire un bruit par le mouvement.'

"Ils possédaient enfin, comme instruments à vent des conques marines faites de la coquille du strombe géant, dont ils sciaient la pointe, ou modelees en terre, d'après cette même coquille; des cors ou cornets aussi en terre cuite, des flageolets enfin et des sifflets de la même matière.

"Les flageolets, dont on peut voir une bonne figure dans l'Album de Waldeck, se composent d'une embouchure d'un corps plus ou moins cylindrique couvert d'une glacure brune ou rougeâtre et percé d'une anche, puis de quatre trous, d'un pavillon moulé, tout charge d'ornements en relief ou l'on distingue des quintefeuilles, des symboles tels que la tete de mort, le *joel* du vent, estampes, par

1. The passage translated reads as follows:

The Mexicans still make use of a kind of clapper, *l'omichicahuaztli*, made of bones (*omitl*), stag horns; *l'ayacachtli* and the *tetzilachtl*, hollow, bowl-shaped rattles or bells made of clay or metal, furnished with small stones in the interior, finished with a handle or ring; *l'ayacachtli caualiztli* or *nacalt quauitl*, a board two arms in length by the breadth of a hand to which bells and some cylindrical pieces of wood were attached at regular intervals designed to produce a noise when moved.

They possessed as well wind instruments, some sea shells made from the shell of some fish of which they sawed off the point or modeled the shell in clay, some trumpets also in baked clay as well as some flageolets or whistles in the same material. The flageolets, of which a good example is shown in the Album of Waldech, have a more or less cylindrical mouthpiece covered with a brown or red glaze, pierced by a reed; four finger-holes and a bell or "pavilion" ornamented in relief with cinquefoils and various symbols such as the death's head, etc.. . . . placed under symmetrical arches. The whistles of which I have represented various types, may be classed in three groups. Those which represent human subjects, such as the players of the *teponaztli* of which I have just spoken, or other small personages moulded on a globe or cylinder and variously ornamented; those which suggest bird forms, *huitzil* beating their wings, *pachaquatl* with feathered ears and large round eyes and a short recurved beak; *tlamatototi* ornamented with a large crest, colin or quail; those, the most numerous, of globular form with a long beak glazed with a brown varnish, a projection above and below, four buttons in high relief outlined in the center and finally a kind of scarf, terminating in spreading ends, which envelops the sound holes.

quatre, par six, par huit et par neuf, sous des espèces d'arceaux symétriquement disposés.

"Les sifflets, dont j'ai representé divers types . . . peuvent etre classés en trois groupes. Ceux qui representent des sujets humains comme les joueurs de *teponaztli* dont j'ai déjà parlé, ou d'autres petits personnages montés sur boule ou sur cylindre, et diversement ornés; ceux qui offrent des types ornithologiques, *huitzil* battant des ailes, *pachaquatl* aux oreilles de plumes, aux grands yeux ronds, et au bec court et recourbé; *tlamatototl*, orné d'une large huppe, *colin* ou caille; ceux enfin, bien plus nombreux, de forme globuleuse, avec un long bec enduit d'un vernis brun, une sorte de queue saillante en avant et en bas . . . . quatre boutons en fort relief, tracés au centre, enfin une espèce d'écharpe qui enveloppe le trou d'émmission et se termine par des renflements striés." Hamy, p. 36.

To this may be added the remarks on the subject by Bandelier,[1] who, during his archaeological researches in the neighborhood of the Cholula collected much valuable material. He says: "The musical instruments, which, while still in use in Mexico, are known to antedate the Conquest, are but three in number, one of which is already falling into oblivion. It is the *tozacatl* (sounding-cane), described to me as a long cane, bent round like an Alpine horn. I never saw one, but its sound is said to be a sonorous bellowing. The other is the *chirimia*. It is made of dark brown wood, called *tepehuaje*, brought to Cholula from Matamoros-Yzucar, or near Atlixco. Its length is 0.46 meter (about 18 inches), and its width at the mouth is 0.06 meter (about 3 inches). It has eleven holes, irregularly arranged, and the mouthpiece is a thin plate of horn on a stem of brass. The noise produced by this instrument is a fit accompaniment to the shrill Indian voices, being horrible beyond all description. Nevertheless, the aborigines play it rhythmically very well, and feel as pleased with its heartrending shrieks as with the softest and most silvery tones of a flute. The name *chirimia* is Spanish, and signifies hautboy. But, while the present wooden instrument is evidently only the Spanish (or European) hautboy, there is a still older type, made of clay, occasionally exhumed about Cholula, much smaller than the *chirimia*, to whose affinity with the older type is due the hold it has preserved on the affections of the natives. The *chirimia* is the most popular Indian noise-maker, together with the big drum, or *tlapan-huehuetl*, erroneously called *teponaztli*. It is a hollow drum, three-legged, made like a cylindrical barrel, with staves firmly jointed and glued,

1. Report of an Archaeological Tour in Mexico in 1881, in Papers of the Archaeological Institute of America, American Series, vol. 2, p. 150 ff. 1884.

and covered at the upper end with a piece of tanned leather. The usual height of this is 0.76 meter (30 inches); its diameter is 0.45 meter (18 inches); the legs are 0.07 meter (3 inches) high; and the thickness of the wood, which is pine, is 0.02 meter (0.8 of an inch). It is beaten with two drumsticks (*tlaxixtli*) 0.34 meter (14 inches) long, having an elliptical head covered with deerskin. . . . This drum was exclusively employed for religious purposes, among which I include the dances. Every festival day the instrument is placed in front of the church and is beaten at intervals for hours."

CLASS I STRINGED INSTRUMENTS

Section A Plucked Strings

3316 HARP. *Harpa.* A quadrangular base supporting a harp-shaped frame enclosing a sound-box with four circular holes. The strings fastened to metal pegs in the arch are carried over a bridge formed by the framework to the edge of the extended sound-box, where they pass to the other side. Thirty-eight wire strings. Central Mexico.
Length, 3 feet 6 inches. Width, 1 foot.

3317 HARP. *Harpa.* Hexagonal sound-box of light wood with two simply carved legs. The arch is supported by a straight pillar with turned ends. Two sound-holes. Wooden tuning pegs. Thirty-six strings.
Tlaxcala, Central Mexico.
Length, 3 feet 1½ inches. Width, 1 foot 10½ inches.
The *harpa* and *jaranita* (guitar) are used as an accompaniment to the native dances, the *fandango* and the *jarabe.*[1]

662 HARP. *Harpa.* Sound-box of light wood, trimmings and three ornamental sound-holes in walnut; the under side of the box hexagonal, the larger end resting on two feet. The arch carved in the form of a serpent, the open mouth resting on the pillar. At the larger end of the sound-box there is a carved figure in relief, with arms akimbo, the legs and feet forming the support of the harp. The head, which is carved in high relief, wears a hat and has glass eyes. Thirty-seven strings.
Length, 3 feet 5 inches. Width, 2 feet 2½ inches.

1. Debray. Mexico. pl.-"Un Fandango."

Class I Stringed Instruments Section A Plucked Strings

635 BANDOLINE. Made from the shell of an armadillo. The neck and front of wood. The circular sound-hole ornamented with inlay of white wood surmounted by a cross, below the sound-box a seborium similarly inlaid. Ten wooden string pegs. Five gut strings.
Length, 2 feet 4½ inches. Diameter, 8½ inches.
MacCurdy[1] in his work on the armadillo in the ancient art of the Chiriqui states that it is a dominant decorative factor full of symbolic and mythologic meaning and is as characteristic of the Chiriqui as the lotus is of Egypt.

637 BANDOLINE. A pear-shaped body of maple with flat back and front. A central sound-hole bordered with a band of ornamental pearl inlay. Nineteen metal frets on the finger-board. Eighteen wire strings arranged in groups of three. Length, 2 feet 8 inches. Diameter, 1 foot 1 inch.

2881 GUITAR. *Jaranita.* European model. The back made from the shell of an armadillo. Six strings.
Length, 2 feet 8 inches. Diameter, 10 inches.
cf. Note to No. 3317, p. 193.

Section B Struck Strings

1740 MUSICAL BOW. A tube of cane with a string fastened at one end and held taut by a tuning-peg inserted at the opposite end. Beneath the string the surface is flattened and four narrow slits are cut in the tube at irregular intervals. Reproduction. Original in the U. S. Nat. Museum Cat. No. 9,974.
Length, 3 feet 9 inches.
A duplicate of this bow in the Peabody Museum, Cambridge, Mass., is illustrated and described by Balfour,[2] who also shows on the same page a similar example from Patzcuaro, the original of which is in the University Museum, Oxford. Starr[3] mentions a bow of this type, the *camalpa*, found among the shepherds of Malintzi to the west of Patzcuaro. The same author states[4] that at Coixtlahuaca he met a Dominican who described two primitive instruments formerly used by the natives of San Francisco (Mexico). One of these was made of a turtle shell; the

1. MacCurdy, in Compte rendu du Congrès Internat. des Américanistes, 15 Sess., Quebec, 1906 (1907), p. 163.
2. cf. Musical Bow, p. 46.
3. Notes. 1900. p. 36.
4. Idem., p. 67.

other, which is called *sam-po-na*, is a musical bow made of the "spine" of a fish bent with a cord; one end is placed in the mouth while the other is held in the hand; it is played with another "spine".[1] He also describes the *jul* of the Mayas as a small bow, or arch, made from a *bejuco* (vine), strung with a cord and held with the cord to the mouth; air is breathed upon it and it is caused to vibrate by striking with a small stick.[2]
The Pueblo Indians of New Mexico have a bow of this type, the native name of which is *thlin-thlin-no-me*.
cf. U. S. Nat. Museum Coll. No. 48,089. Mason. Amer. Anthrop. 10, p. 379, 1897.

3318 VIOLIN. European model. Unvarnished wood, stained red. The peg-box finished in a rudely carved scroll. Toxcoco, Central Mexico. Section C Bowed Strings
Length, 1 foot 7 inches. Width, 5 inches.

563 VIOLIN. European model. Unvarnished wood rudely carved.
Length, 2 feet. Width, 10 inches.

CLASS II WIND INSTRUMENTS

1946 WHISTLE. Pottery. Seated figure of an old priest wearing the *maxtli* or loin cloth, the right arm raised, the left leg doubled under. The head is shaved high above the temples, leaving the hair upright in the center and falling over the ears, a style characteristic of the order. The whistle is in the right arm. Section A Whistles
Height, 2¾ inches.

These whistles and rattles are often modeled in the forms of the various deities of Ancient Mexico, each householder, according to his rank, being allowed a certain number of domestic idols. Writing on this subject Hamy[3] quotes Clavigero, as follows: " 'Tepitoton,' dit Clavigero,[4] 'était le nom que donnaient les Mexicains à leurs penates ou dieux domestiques, et aux idoles qui les repre-

1. See also Appendix, p. 258.
2. cf. Notes, 1902, p. 17.
3. Galerie Américaine du Musée d'Ethnographie du Trocadéro. 1897.
4. Storia antica del Messico cavata da miglioro storici spagnuoli e da' manoscritti, e dalle pitture antiche degl'Indiani, etc., Cesena, 1780.

Class II
Wind
Instruments
Section A
Whistles

sentaient. Le Roi et les seigneurs devaient avoir six de ces petites idoles (idoletti) dans leurs demeures; les nobles en devaient avoir quatre, et les plébéiens deux.' "[1]

2066 WHISTLE. Pottery. Globular; a variant of the bird and serpent symbolic form. One finger-hole.
Length, 3¼ inches.

3476 WHISTLE. Pottery. Fragment. Originally a form similar to No. 2066.
Length, 3 inches.

2064 DOUBLE WHISTLE. Pottery. Fragment. A double form of the bird and serpent symbol, similar to No. 2066.
Length, 3 inches.

3309 WHISTLE. Pottery. Bulbous type with serpentine form in relief. One finger-hole.
Length, 1⅞ inches.

3475 WHISTLE. Pottery. Bulbous form with flattened tubular mouthpiece. On the front the clay is rudely modeled in the shape of a grotesque head with two arms which pass over the forehead and rest on the globe in front. Imperfect.
Huexotla, Texcoco.
Length, 3¾ inches. Diameter of bulb, 1⅞ inches.

This model is a variant of the bulbous type decorated with serpentine bands of clay, described by some as a "scarf."

Kollman[2] describes a similar specimen in the University Ethnographical Museum at Basle, and Hamy[3] illustrates another from the Valley of Mexico.

Writing of the wind instruments of the Aztecs, Cresson[4] is of the opinion that these people had a knowledge of the scales as known to us. He bases his theory upon the

1. Translation. "Tepitoton," says Clavigero, "was the name that the Mexicans gave to their penates or household gods and to the idols that represented them. Custom demanded that the king and his court should have six of these little idols in their dwellings; the nobles four and the plebeians two.'"

2. Flöten und Pfeifen aus Alt-Mexiko. In Adolf Bastian als Festgruss, 1896.

3. Galerie Américaine Musée d'Ethnographie du Trocadéro. (Cat. No. 6385). 1897.

4. Aztec Music. In Proceedings of the Academy of Sciences of Philadelphia, 1883.

fact that chromatic and diatonic scales can be produced with a full octave on the four-holed clay flageolets and also that the clay whistles manipulated in quartette will produce an octave and a fourth.

3474 WHISTLE. Light brown pottery, unglazed. One finger-hole. Similar to No. 3475. San Francisco (Distrito Federal).
Length, 2¼ inches.

688 WHISTLE. A slightly conical tube of unglazed terra-cotta terminating in a small bulb.
Length, 2 inches.

3477 WHISTLE. Pear-shaped form in light brown pottery, unglazed. Imperfect. Coatlax, Texcoco. (?)
Length, 2⅛ inches.

3478 WHISTLE. Brownish gray pottery, unglazed. Bulbous form with flattened mouthpiece. One finger-hole. Imperfect.
Length, 1¼ inches.

3308 WHISTLE. Brown pottery, unglazed. The shell of the whistle is tubular with a flattened mouthpiece rising from the center of one side. One finger-hole. San Sebastian, Texcoco.
Length, 2⅛ inches.

1274 WHISTLE. Reddish brown pottery. The shell of the body is elliptical with a flat tube rising from the center of one side. Just above the vent a grotesque human head with large ears. One finger-hole.
Length, 3 inches.

1948 WHISTLE. Light brown pottery, unglazed, shaped in the form of a human head. The features are unusually well modeled; the large ears, thick lips, and flat nose suggesting the negroid type. The face has lines of raised dots extending from ear to ear and on the cheeks and chin.
Length, 3⅛ inches.

3472 WHISTLE. Light brown pottery, unglazed, shaped in the form of a grotesque bird's head with large ears and

round eyes. The mouthpiece and one ear missing. Valley of Mexico.
Length, 2¼ inches.
There is a similar piece (No. 20,528) in the Galerie Américaine of the Trocadéro Museum. cf. Hamy, p. 18, No. 59. This bird form represents the head of *coscoquautli*, the vulture.

2378 WHISTLE. Pottery. Mask with flattened mouthpiece protruding from the top. At the sides circular ear ornaments. Length, 2½ inches.

657 WHISTLE. Brownish gray pottery, unglazed, shaped in the form of a grotesque head, the mouth open, showing the teeth. Large ears at the sides. A conical head-dress forms the mouthpiece. Imperfect.
Length, 2½ inches.

3300 WHISTLE. Reddish brown pottery, unglazed. A cylindrical shell resting on three feet, surmounted by a grotesque head. Mouthpiece at the back. One finger-hole in front.
Length, 3½ inches.

3304 WHISTLE. Bird form in light brown pottery, unglazed. One finger-hole. Calixtl (?).
Length, 3 inches.

3332 WHISTLE. Gray black pottery, unglazed, shaped in the form of a bull. The tail forms the mouthpiece and there is a single finger-hole over one foreleg. Zapotec Indians, Coyotepec, Texcoco. cf. Starr. Notes, 1900, pp. 45, 51, and 92, fig. 26.
Length, 3½ inches.

3333 WHISTLE. Gray black pottery, unglazed, shaped in a grotesque bird form. It rests on two feet and the tail, the latter forming the mouthpiece. One finger-hole in front below the head. Zapotec Indians.
Length, 4½ inches.
cf. Starr. Notes, 1900, p. 92, fig. 24.

2773 WHISTLE. Dark brown pottery, unglazed. Grotesque globular bird form, probably an owl.
Height, 5½ inches.

ZAPOTEC POTTERY BELLS AND WHISTLES. MEXICO
PP. 198, 208

1945 WHISTLE. Brown pottery, unglazed. Ewer form with grotesque animal head on the upper side. Length, 3 inches.

648* WHISTLE. A small bulbous form of unglazed pottery with a flattened mouthpiece. One hole in the center. Length, 1 ½ inches.

3302 WHISTLE FLUTE. *Pito.* A conical tube of gray pottery, unglazed, with four finger-holes and a beaked mouthpiece. A grotesque head in relief above the finger-holes. The larger end of the tube is at the mouthpiece. Imperfect.
Length, 5 ¾ inches.

The *pitos* held a prominent place in the ancient ceremonies of the Aztecs, which Engel[1] describes as follows: "At the religious festival which was held in honor of *Tezcatlepoca*, a divinity depicted as a handsome youth, and considered second only to the supreme being, a young man was sacrificed who, in preparation for the ceremony, had been instructed in the art of playing the flute. Twenty days before his death, four young girls, named after the principal goddesses, were given to him as companions; and when the hour arrived in which he was to be sacrificed he observed the established symbolical rite of breaking a flute on each of the steps as he ascended the temple.

"Again, at the public ceremonies which took place on the accession of a prince to the throne, the new monarch addressed a prayer to the god, in which occurred the following allegorical expression: 'I am thy flute; reveal to me thy will; breathe into me thy breath like into a flute, as thou hast done to my predecessors on the throne. As thou hast opened their eyes, their ears, and their mouths to utter what is good, so likewise do to me. I resign myself entirely to thy guidance.'" He also illustrates a pipe in the British Museum Collection similar to No. 3302.

Starr[2] describes other varieties of the *pito* which accompany certain dances of the Aztecs. "In the *danza de*

* Placed with Class II in the kindred instruments of the Historical Groups.

1. Musical Instruments in the South Kensington Museum, p. 63 ff. Also Kollman. Flöten und Pfeifen aus Alt Mexico, p. 560.

2. Starr. Notes upon the Ethnology of Southern Mexico, p. 8 ff.

Class II
Wind
Instruments
Section A
Whistles

Santiago the music is furnished by two musicians, one who plays the *pito*, a cane pipe with a blow hole and five holes for the escape of air, one of which is below, four above. The other beats upon the *huehuetl*, a wooden cylinder with a piece of peccary skin stretched across one end."

In the dance of the *El Toro de cuero* (the leather bull) the *pito* employed differs from that used in the Santiago. The cane is longer, has but four escape holes, and the mouthpiece is different, consisting of a small tube set in a mass of black gum.

The same author[1] in writing of the Zoques (Southern Mexico) states that the music for the popular dances is supplied by the violin, *pitos*, and drum, and that the *pitos* are of two kinds. "The smaller has slant-cut mouthpiece, partly plugged with gum, a square hole near the end, and two similar holes opposite. The larger is longer, and has a similar mouthpiece, one round escape hole on one side, and several on the opposite side."

The two beaked flutes in the group of musical instruments illustrated by Seler[2] were doubtless of the form described by Starr as now in use among the Zoques.

The Hopi Indians of New Mexico and Arizona also make pottery flutes.

2774 WHISTLE FLUTE. Reddish brown pottery with four finger-holes. The mouthpiece and bell restored.
Length, 6¼ inches.

3312 WHISTLE FLUTE. Mouthpiece and fragment of tube in dark gray pottery, slightly glazed.
Length, 2¾ inches.

3471 WHISTLE FLUTE. Similar to No. 3302. Three finger-holes. Imperfect.
Length, 4 inches.

2775 WHISTLE FLUTE. A tube of dark gray pottery, glazed, terminating in a small bell. Four finger-holes.

1. Starr. Notes upon the Ethnology of Southern Mexico, p. 65.
2. Globus, vol. 74, 1898, p. 88, fig. F.
Idem., vol. 76, 1899, p. 109.

POTTERY WHISTLES. MEXICO
PP. 196–201

Between the third and fourth hole three red lines show beneath the glaze. Mouthpiece and bell imperfect.
Length, 6½ inches.

3301 WHISTLE FLUTE. A tube of unglazed reddish brown pottery with a flattened mouthpiece. Four finger-holes on the obverse side. The end of the tube (restored) is pronged with two curling projections in the center, symbolical of the fangs and open mouth of the serpent.
Length, 6½ inches.

The placing of the finger-holes on the obverse side is not unusual. The original form of this pipe doubtless had a bell-shaped end such as is shown by Engel[1] and again by Kollman,[2] who describes a similarly-shaped flute in the Ethnographical Museum at Basle as a "*flöte cocoloctli*." This *flöte cocoloctli* may possibly be the prototype of the cane flute with bell-shaped terminal employed by the Hopi Indians in their Snake Dance ceremonial, a form found in no other locality.

3470* WHISTLE FLUTE. Fragment of a tube of brownish pottery, slightly glazed, somewhat serpentine in form, with three holes in front and a flattened mouthpiece.
Length, 5¼ inches.

3469* WHISTLE FLUTE. Fragment of a tube of brown pottery, slightly glazed, with a flattened mouthpiece and two holes directly below the whistle. Three narrow bands of red beneath the glaze.
Length, 7¾ inches.

3473* WHISTLE FLUTE. Fragment of a tube of unglazed gray pottery terminating in the form of a human head with protruding eyes, a large nose, and an ornamental head-dress. From San Diego, District of Texcoco.
Length, 2 inches.

CLASS III VIBRATING MEMBRANES

3315 DRUM. *Huitzilopochtli.* A bowl-shaped conical body made from the root of a tree hollowed out, the larger and

1. Musical Instruments in the South Kensington Museum, p. 62.
2. Flöten und Pfeifen aus alt Mexico. In Adolph Bastian als Festgruss, 1896, p. 560.

* These instruments have been placed with the Prehistoric Group.

Class III
Vibrating
Membranes
Division I
Struck
Section A
Drums
1. With one
Head

open end covered with a membrane decorated with a painting of an Indian head in sepia. Valley of Mexico.
Diameter, 1 foot 8 inches. Depth, 1 foot 3½ inches.

Besides the two customary forms of drums used by the native Mexicans, the *teponaztli*, the horizontal drum, and the *huehuetl*, the upright drum with a skin head, Starr[1] also describes a pottery drum, the *mai-ya*, of the Mixes, as follows:

"The Mixes delight in rather elaborate celebration of their fiestas. They have a variety of dances and dramatic performances; these have been much influenced by Spanish ideas. They retain, however, some hints of Indian life in the costumes and musical instruments. Thus the old rattle made of the hard and round fruit of a tree, is still retained. Curious wands of feathers or down used in the *Danza de la Conquista* seem to reproduce some aboriginal object. At San Juan Guichocobi they have long used the *mai-ya;* a good specimen of this from that place is now in possession of Bishop Mora, of Tehuantepec. It consists of a two-bodied brownish-black earthen vessel, the round bodies being one above the other; over the aperture at the top of the upper body is tied an iguana skin; a neck and head of some animal or bird project from the lower body and a hole in the back of the head serves for air escape. The sound given by this pot drum when beaten is clear and fine. The specimen measures 1 foot 3 inches in height, and 9 inches in diameter."

Writing of the instruments of the Mayas, the same author[2] describes their drums and rattles, as follows: "The *tunkul*, or native drum, corresponds to the Aztec *teponastl;* it has largely gone out of use, but is said to still figure at some village festivals; the *caracol*, or shell trumpet, is used in rural places to summon the people; rattles for dances are made from a calabash-like fruit in which the dry seeds serve to give the noise."

The same author further states that in the *Kubpal* (*entrega de cabeza de cerdo*, carrying the pig's head), a native dance celebrated on the third day of May, "the rattles used had an oval body set into a conical bunch of splints, uniting downward into a handle; these rattles were painted gaily. . . . There were two musicians,

1. Notes upon the Ethnology of Southern Mexico, pp. 62, 63, 94, fig. 47. 1900.

2. Idem, p. 17 ff. 1902.

one with a *pito*, or whistle, with a small mouthpiece gummed at the end of a long tin tube pierced with note holes; the other carried a painted tin drum of the *huehuetl* type; this he played with his hands. Hung to the side of the drum, near the top, was a turtle shell upon which the drummer struck with a deer's horn."[1]

CLASS IV SONOROUS SUBSTANCES

Division I Struck

2620 RATTLE. A string of cocoons containing bits of gravel. Worn about the calves of the legs.
Length, 7 feet 5 inches.

These rattles are made from the cocoons of a species of bombycid moth and are used by the Papago or Yaqui of the Piman stock that occupy territory in Southern Arizona and as well in Sonora, northwestern Mexico.[2]

3620 RATTLE. Anklet rattle worn by runners. A band of seventeen cocoons with pebbles enclosed, strung on a leather thong, a strip of leather at each end for fastening about the ankle. Probably Tarahumare Indians of Northern Mexico.
Length, 11 inches.

The Yaqui Indians have a similar rattle called *tenchuy*.

669 RATTLE. Notched bone. Fragment of a bone, the surface of one side notched with fifteen incisions.
Length, 8 inches.

Biart[3] writing of the Aztecs states that the bones of deer and even of men were put into the hands of the distinguished dead on the day of the funeral. These bones, notched their whole length, were rubbed against each other or against a shell. They were called *axacaxtli*.

671 RATTLE. Notched stick and scraper. A flat wand of walnut with the surface of one side cut in a series of

1. Idem. pp. 19, 104, fig. 25.

2. Russell, Frank. The Pima Indians. Bur. of Ethnol. 26th An. Rept. 1904–1905, p. 169. Wash. 1908.

3. Aztecs, p. 305. cf. also Capitan, in Compte Rendu du Congrès Internat. des Américanistes, 1908, p. 107, and Hamy, Galerie Américaine du Musée d'Ethnog. Trocadéro, pl. XVII, Nos. 51–52.

Class IV
Sonorous
Substances
Division I
Struck

parallel incisions that terminate at each end with two crosses.[1]
Length, 1 foot 8½ inches.
This specimen is similar to those found in Arizona and may be either of Piman, Yaki, or Tarahumare provenance.

672 RATTLE. Notched stick and scraper. A wand of satin-wood (*chloroxylon swietenia*). On one side thirty-eight incisions, varying from ⅛ to ¼ inch in depth, form a corrugated surface. Espiritu Santo Bay.
Length, 1 foot 9 inches.

2047 RATTLE. *Guiro*. A conical cylinder of tin with a strip of goffered tin, slightly raised from the surface, fastened to one side. A handle at each end.
Length, 1 foot 6 inches. Diameter, 3½ inches.
There is a similar specimen from Spain in the U. S. Nat. Museum Coll. No. 95,329.

505 BELL. Bronze. Pear-shaped, with a flat top, a slit on the lower side showing a loose metal ball in the interior. The upper half of the surface corrugated.
Height, 3½ inches. Width, 2¾ inches.

1953 BELL. Copper. A small pear-shaped form with a ring in the top.
Height, 1¾ inches.

1954 BELL. Similar to No. 1953.
Height, 1 inch.

1955 BELL. Similar to No. 1953.
Height, 1 inch.

3306 BELL. Similar to No. 1953.
Height, 1⅜ inches.

3305 BELL. Similar to No. 1953.
Height, 1 inch.

1. The Pueblo Indians often use the zigzag emblem of lightning and the cross of St. Andrew (*crux decussata*), symbol of the four directions. The U. S. Nat. Museum has a notched stick (No. 10,773) of mesquite wood from the Ute (Shoshonean) Indians called *pam-pu-ni-wap*. Another (No. 218,070) of grease wood (of the genera *Sarcobatus, Grayia*, etc.) from the Pima. Also one from the Yaqui (No. 218,069).

2549 BELLS. Two miniature bells in gold, globular form, a slit on the lower side.
Diameter, $\frac{3}{16}$ inch.

Wilson[1] furnishes the name *tzilinilli* for Mexican bells and quotes Holmes,[2] who states that it is difficult to prove that these metal bells found in Mexico are not of European origin or inspiration, but at the same time there is strong evidence that such bells were in use by the Americans prior to the advent of the whites.

1727 BELL. Bronze. The surface decorated with embossed lines at the top and around the lower edge; a foliated Greek cross on one side, between two floral forms.
Height, 7 inches.

3464 RATTLE. Red pottery, unglazed, shaped in the form of a kneeling priestess or idol. Horned head-dress. San Francisco (Distrito Federal).
Height, 3 ½ inches.

3311 RATTLE. Red pottery, unglazed, similar to No. 3464. Imperfect.
Height, 2¾ inches.

3466 RATTLE. Red pottery, unglazed, shaped in the form of a seated idol, wearing a pointed head-dress. San Francisco (Distrito Federal).
Height, 3 inches.

The figure represents *Ozomatl*, the monkey who often appears in lieu of the god of dance and song or is dressed in the ornaments of that god.

3467 RATTLE. Red pottery, unglazed, a figure wearing a pointed cap or head-dress. One arm missing.
Height, 2½ inches.

Macuil-Xochitl-Xochi-pilli, the god of dance and song represented in this figure is often shown with the face protruding between the mandibles of a bird. The pointed head-dress in this instance is a variant of the bird form.

1. Prehistoric Art. Smith. Inst. An. Rept. 1896, pp. 596, 627. Wash. 1898.

2. Ancient Art in the Province of Chiriqui. Bur. of Ethnol. 6th An. Rept. 1884–1885, p. 50. Wash. 1888.

Class IV Sonorous Substances Division I Struck

The figure also wears the shell ornament of the wind god, *Quezal-coatl*.

3465 RATTLE. Gray pottery, unglazed, shaped in the form of a woman with turban head-dress, a child on her back. San Francisco (Distrito Federal).
Height, 2¾ inches.

1447 RATTLE. Light brown pottery, unglazed, shaped in the form of a grotesque head.
Length, 1 inch.

3468 RATTLE. Light brown pottery, unglazed, shaped in the form of a seated figure with a feather head-dress. The hands rest on the knees and the feet are crossed.
Height, 3 inches.

The figure represented is *Macuil-Xochitl-Xochi-pitti*, the god of dance and song. See note to No. 3467, p. 205.

1284 RATTLE. Light brown pottery, unglazed, similar to No. 3468, but without arms. Turban head-dress.
Height, 1¾ inches.

3463 RATTLE. Light brown pottery, unglazed. Globular form with a flattened knob on each side, between which protrudes a short, thick neck terminating in a head. Xoxo, Oxacaca.
Height, 2¾ inches.

This figure represents *Macuil-Xochitl-Xochi-pitti* as a child wearing disc ear ornaments. See note to No. 3468.

2062 RATTLE. Reddish brown pottery, unglazed. Globular form with arms and legs, the hands resting on the knees. In place of a head there is a small flat projection pierced with a hole.
Diameter, 3 inches.

3310 BALL RATTLE. Reddish brown pottery, unglazed, the surface decorated with indented bands of geometric ornament.
Diameter, 1¾ inches.

3460 BALL RATTLE. Reddish brown pottery, unglazed, similar to No. 3310, but without ornament, the surface

POTTERY RATTLES. MEXICO
PP. 205–207

marked with incised lines. The shell is perforated with fourteen small holes.
Diameter, 2¾ inches.

3303 RATTLE. Animal form in light brown clay; the rattle, bell-shaped, rises from the back of the animal, between the ears.
Height, 4 inches. Length, 5 inches.

3307 RATTLE. Globular form in reddish brown clay, slightly glazed, the surface decorated with incised lines and perforations.
Diameter, 1¾ inches.

2065 RATTLE. Globular form, similar to No. 3307, in terracotta.
Diameter, 2 inches.

2224 RATTLE. Brown pottery, unglazed, in the form of a human figure, slightly stooping. Two triangular openings in front and one at the back. Fragment of an incense burner.
Length, 7 inches.

"Whistles and rattles of baked clay are very common in Mexico, and in Central and South America; but few examples, so far as the writer has learned, have been discovered in the mound region. General Thruston in his valuable work on the Antiquities of Tennessee, illustrates an earthenware rattle and the pellets of clay used in it. A few vases have been found having hollow legs or attached animal features, in which pellets were placed so that when used on festive or ceremonial occasions they would serve as rattles as well as receptacles."[1]

661 BELL. Dark gray pottery, unglazed. At the ear the pottery flattens out into a broad surface with a finial cut in the form of a spread eagle. Zapotec Indians, Coyotepec, Texcoco.
Height, 5½ inches. Diameter of bell, 10 inches.
This specimen and the following, Nos. 3327, 3329, 3330,

1. Holmes, in Bur. of Ethnol. 20th An. Rep. 1898-99, p. 35. Wash. 1903.

Class IV Sonorous Substances Division I Struck

are from the Zapotec Indians, Coyotepec, Texcoco. See Starr.[1] Notes, 1900, pp. 51 and 91, figs. 20–23.

3328 BELL. Dark gray pottery. Similar to No. 661.
Height, 8 inches. Diameter, 4⅜ inches.

3327 BELL. Dark gray pottery, similar to Nos. 661, 3328, the top finished in a simple ring handle.
Height, 5 inches. Depth, 4½ inches.

3329 BELL RATTLE. Dark gray pottery, unglazed, shaped in the form of a Maltese cross, each terminal bell-shaped, with a small pottery clapper.
Height, 4⅜ inches. Diameter, 1¾ inches.

3330 BELL. Dark gray pottery, unglazed, shaped in the form of a figure with flaring skirts, the arms akimbo.
Height, 3 inches. Diameter, 2⅜ inches.

2950 DRUM. *Teponaztli.* Carved from a large tree trunk of hard wood (mesquit) hollowed out with a solid block 5½ inches deep left at each end. On one side a longitudinal opening and on the opposite side two parallel incisions running lengthwise connected by a shorter incision in the center, form two vibrating tongues 1¾ inches thick, on which the drum is struck.
Length, 2 feet 6 inches. Diameter, 9 inches.

This form of drum was made in sizes varying from 10 to 5 feet in length, the smaller ones being suspended from the neck of the drummer by a strap. The sticks were covered at the end with caoutchouc or with an elastic gum called *ule* which was obtained from the juice from a tree of the same name.

A drum resembling this is found in the *m'kul* of the French Kongo, which has two similar projecting tongues in the center with a longitudinal opening on each side. When used in war this drum is struck on the center and for the dance in the center and on one end. cf. African section Nos. 552, 556. Mahillon compares it with the *kiringhie* of Sierra-Leone. Mahillon, vol. 2, pp. 137–140. cf. also Starr. Notes, 1900, p. 35. Journal of American Folk-lore, vol. 9, 1896, p. 162. Engel. Musical Instru-

1. Notes upon the Ethnography of Southern Mexico. Proceed. of the Davenport Academy of Nat. Sciences. 1900.

ments, p. 73. Debray. Mexico, p. 51. Biart. The Aztecs, p. 303 ff. Preuss, in Globus, vol. 91, p. 187.

2432 DRUM. A small drum similar to No. 2950.
Length, 10½ inches. Diameter, 3 inches.

642* BELL. Copper. Pear-shaped form similar to No. 1953.
Height, 1¾ inches.

1952* BELL. Similar to No. 642.
Height, 2 inches.

3462* RATTLE. Brownish gray pottery in the form of a seated figure with a broad, flat head and a prominent nose. Top of head broken. District of Oaxaca.
Height, 3¾ inches.

3461* RATTLE. Brownish gray pottery in the form of a grotesque standing figure with a broad, flat head and openings for the eyes and mouth. District of Oaxaca.
Height, 5 inches.

*These instruments have been placed with the Prehistoric Group.

CENTRAL AMERICA

GUATEMALA

CLASS I STRINGED INSTRUMENTS

Section A Plucked Strings

3143 HARP. Similar to the Mexican harp. The neck ornamented with conventionalized serpent forms, is pierced for twenty-seven string pegs, seven of which are missing.
Height, 3 feet 3 inches. Width, 1 foot 7 inches.

CLASS II WIND INSTRUMENTS

Section A Whistles 1. Vertical Flutes

675 WHISTLE FLUTE. A tube of cane with six finger-holes.
Length, 7¼ inches.

676 WHISTLE FLUTE. A tube of cane with six finger-holes arranged in two groups of three. The opening for the breath is on the reverse side from the finger-holes.
Length 1 foot 5¼ inches.

CLASS III VIBRATING MEMBRANES

Division I Struck Section A Drums 2. With two Heads[1]

663 DRUM. A wooden cylinder with skin stretched over the ends, held in place by flesh hoops, and laced together with fibre cord. The tension of the heads regulated by leather slides. Two small knobbed drumsticks.
Height, 11 inches. Diameter, 10 inches.

664 DRUM. Similar to No. 663. The slides that regulate the tension are of fibre cord. One drumstick.
Height, 10 inches. Diameter, 6½ inches.

1. Section A 1 not represented.

CLASS IV SONOROUS SUBSTANCES

665 DRUM. The shell of a snapping turtle.
Length, 1 foot 1½ inches. Width, 10 inches.
Stoll[1] in his work on the Indians of Guatemala gives the native name of the drum as *coc*. The large drum, the most important of the native instruments, is called *k'ojon*, and the cane flute *pokonchi*.
cf. Seler's note on the Code Becker, in Globus, vol. 76, p. 111, Fig. 3. 1899.

687 PAIR OF RATTLES. Globular gourds painted bright red and decorated in green and yellow, each pierced with a straight wooden handle.
Length, 7½ inches. Diameter of gourd 2½ inches.

1314 RATTLE. Small globular gourd, the black surface polished and ornamented with incised lines and dots in yellow, green, and purple. Straight wooden handle.
Length, 6 inches. Diameter, 2 inches.
Dr. Otto Stoll[1] shows gourd utensils with similar decorations.

666 MARIMBA. A rude wooden frame supporting twenty-three slabs of wood. Under each slab a tube of bamboo.
Length of frame, 6 feet 10 inches. Height, 2 feet 6 inches. Width, 1 foot 6 inches. Longest pipe, 2 feet 5½ inches. Shortest, 3 inches.

HONDURAS

CLASS IV SONOROUS SUBSTANCES[1]

2049 MACARONI. A wooden box, one end of which is higher than the other, producing a slanting top. In one side three circular sound-holes, partially covered on the inside with cloth. Rising from the top of the sound-box are eleven wooden rods.
Length, 2 feet 11 inches. Width, 12⅛ inches. Height,

1. Die Ethnologie der Indianerstämme von Guatemala, 1889. Supplement 20 to the Internationale Archiv. fur Ethnographie, vol. 1.

1. Classes I, II, III not represented.

1 foot 8 inches. Length of rods, 2 feet 4¾ inches—10¾ inches.

This instrument resembles a "harp of rods" in the U. S. Nat. Museum Coll. No. 258,935, which is sounded by rubbing the rods, twenty in number, with resined fingers.

NICARAGUA

CLASS I STRINGED INSTRUMENTS

Section A Plucked Strings

2632 GUITAR. *Tipla.* European model.
Length, 2 feet 1 inch. Diameter, 6 inches.

CLASS II WIND INSTRUMENTS[2]

Section A Whistles

2814 WHISTLE FLUTE. A tube of cane with a cap of caoutchouc placed over one end; this has a narrow, slit-like opening on the edge at one side where a thin slip of wood is set in the gum, and below this a hole is pierced in the side of the tube. On the reverse side there are four finger-holes 6¼ inches from the opposite end.
Length, 3 feet. Diameter, 1¼ inches.

These flutes (Nos. 2814, 2815) are nearly destroyed by age and climatic conditions; they are, nevertheless, valuable examples of the primitive type of flutes used by the Mosquito Indians, on the Atlantic Coast of Nicaragua.

2815 WHISTLE FLUTE. The same as No. 2814. Badly cracked and the cap missing.
Length, 3 feet.

COSTA RICA

CLASS I STRINGED INSTRUMENTS

Section B[2] Struck Strings

2385 MUSICAL BOW. *Quijonga.* A rod of palm wood with a wire stretched between the two ends. In the center a gourd resonator fastened with a loop of wire which passes over the wire string. When played, the wire is struck with

1. Classes III, IV not represented.
2. Section A not represented.

a slender wand of wood. The gourd is decorated with incised lines.

Length, 6 feet 1¼ inches. Diameter of gourd, 2¾ inches.

The pitch of this instrument is varied by changing the position of the guacal or cup on the wire, thereby altering the vibrating length of the string. The tone is modulated by increasing or diminishing the opening at the back of the gourd by the palm of the left hand while the string is struck by a small stick held in the right hand of the performer.

cf. Balfour. Musical Bow, p. 42.

Brinton[1] in writing of the Maya, the aborigines of Yucatan, furnishes the name *chul* for flute, and *hom* for trumpet. He also gives a list of the musical instruments of the Nahuatl in Nicaragua.[2] Among them is the musical bow, *quijonga* or *carimba;* the pottery whistle with four holes, *ollita;* a small whistle, *pito;* trumpets, *excoletes;* a horn trumpet, *cacho;* and, quoting Morelet,[3] an aboriginal wind instrument, *chirimova.*

Three drums are mentioned—a hand drum, *huehuetl,* one played with sticks *teponaztli,* and one called *juco,* made of a drinking gourd with a string stretched across the head, to which is attached a small piece of wood that "rattles when the instrument is shaken." Small bells are called *chilchil* or *ayacachtli.* The marimba is also a popular instrument.

2848* MUSICAL BOW. *Quijonga.* Similar to No. 2385.

Length, 5 feet 10 inches. Diameter of gourd, 3¼ inches.

Signor Juan F. Ferraz of the Museo Nacional, Costa Rica, is of the opinion that the word "*quijongo* is probably a corruption of the Aztec *quix-oncan* (compound word from *quixon,* an impersonal form of *quica,* to go out, to issue, and *oncan,* there, yonder, underneath, t.w., that the sound when touching the cord goes out the gourd underneath."

1. The Maya Chronicles—Library of Aboriginal American Literature, vol. 1, p. 265 ff. 1882.

2. Idem. Nicaraguan Musical Instruments and Music, vol. 3, p. 28. 1883.

3. Voyage dans l'Amérique Central, vol. 2, p. 44.

* This instrument has been placed with Class I of the kindred instruments.

CLASS II WIND INSTRUMENTS

Class II Wind Instruments Section A Whistles

2379 BONE FLUTE. Made from a small bone of some animal. Similar to those found in British Guiana. Five finger-holes.
Length, 7 inches.

2380 BONE FLUTE. Similar to No. 2379. Three finger-holes.
Length, 4¼ inches.

3558 WHISTLE. Bird form with short neck, in reddish brown pottery. Four finger-holes. Head, feet, and one wing missing.
Length, 2¼ inches.

3555 WHISTLE. Bird form with two heads. Dark gray pottery, slightly glazed. Four finger-holes.
Length, 2¼ inches.

3610 WHISTLE. Bulbous form with a short neck. Dark gray pottery. Two finger-holes.
Length, 2 inches.

3559 WHISTLE. Similar to No. 3610.
Length, 1¾ inches.

3168 WHISTLE. Grotesque kneeling figure with large bulging eyes, the left hand supporting the chin. Plain terra-cotta, unglazed. Height, 4¼ inches.

3381 WHISTLE. Animal form (peccary or wild hog?) in plain terracotta. Two feet missing. Two finger-holes.
Length, 4 inches.

3382 WHISTLE. Similar to No. 3381. Two finger-holes.
Length, 4 inches.

2689 WHISTLE. Drum form with a short neck on one side; on the opposite side a grotesque animal (frog?) form in relief. Reddish brown pottery, slightly glazed. The surface ornamented with geometric designs and incised lines. Four finger-holes.
Length, 2 inches.

POTTERY WHISTLES. COSTA RICA
PP. 214-216, 218

3556 WHISTLE. Similar to No. 2689. The surface slightly glazed and decorated with bands of parallel lines and dots. On one side an animal form resembling a lizard or an iguana. Four finger-holes.
Length, 2¾ inches.
Similar to No. 109,721, U. S. Nat. Museum Coll.

2687 WHISTLE. Bird form in dark brown pottery, slightly glazed. Decorated with incised lines. Four finger-holes. Badly cracked, head missing.
Length, 2¾ inches.

3486 WHISTLE. Grotesque bird form in dark gray pottery, slightly glazed. Four finger-holes. Imperfect.
Length, 2¾ inches.

2688 WHISTLE. Similar to No. 3486. Dark brown pottery, slightly glazed. Four finger-holes.
Length, 2¾ inches.

3170 WHISTLE. Animal form (armadillo?). Dark gray pottery, unglazed. Four finger-holes.
Length, 2¾ inches.

3487 DOUBLE WHISTLE. Reddish-brown pottery, slightly glazed, in the form of two birds, the heads blended to make the mouthpiece. One finger-hole in each.
Diameter, 2¾ inches.
cf. Wilson, Smith. Inst. An. Rep., 1896, p. 628, fig. 283. Washington, 1898.

2690 WHISTLE. Bird form with two heads, similar to Nos. 3609–3558. Brown pottery, slightly glazed. Four finger-holes.
Length, 2 inches.
Stoll[1] shows various forms of pottery jars and whistles similar to these from Guatemala.

2691 WHISTLE. Animal form (squirrel?) in dark brown pottery. No mouthpiece. A single hole in the top. Imperfect.
Length, 2 inches.

1. Die Ethnologie der Indianerstämme von Guatemala, vol. 1, suppl. 1, pl. II.

Class II Wind Instruments Section A Whistles

3384 WHISTLE. Ring form (coiled serpent?). Unglazed terracotta with decorations in red and black. Two finger-holes. Imperfect.
Diameter, 2¼ inches.

3380 WHISTLE. Grotesque bird or animal form resting on two feet, the wings or arms extended and the head turned. Reddish brown pottery slightly glazed. Red and black markings. Two finger-holes.
Length, 3¼ inches.
Similar to No. 109,712, U. S. Nat. Museum Coll. from Chiriqui.
cf. Wilson, Smith Inst. An. Rept., 1896, p. 635. Washington, 1898.

3544 DOUBLE WHISTLE. Bird form in slightly glazed terracotta, marked in black. Two birds are placed side by side, the air chambers connected between the heads. Two notes. Similar to No. 133,462 U. S. Nat. Museum Coll. from Chiriqui. cf. Wilson. Smith Inst. An. Rept., 1896, p. 636. Washington, 1898.
Length, 1¼ inches.

3386 WHISTLE. A variation in form of Nos. 3380 and 645. Imperfect. Two finger-holes.
Length, 2½ inches.
Similar in form to No. 109,708, U. S. Nat. Museum Coll.
cf. Wilson. Smith Inst. An. Rept., 1896, p. 631. Washington, 1898.

2548 DOUBLE WHISTLE. Grotesque standing figure with open mouth showing teeth. Plain terracotta, unglazed. One hole in each.
Length, 3¼ inches.

3557 WHISTLE. Miniature figure in gray pottery, similar to preceding.
Length, 1¾ inches.

3543 WHISTLE. A grotesque, standing figure rudely modeled; the head, which is thrown back, has a large nose and slits for the eyes and mouth. The hands rest against the front of the figure. Dark gray pottery, unglazed. Three finger-holes. Imperfect.
Length, 4 inches.

POTTERY WHISTLES. COSTA RICA
PP. 215–218

3483 WHISTLE. Animal form (dog?) in light brown pottery, slightly glazed, with red and black markings. Two finger-holes.
Length, 6¾ inches.

3484 WHISTLE. Similar to No. 3483. Two finger-holes.
Length, 5¾ inches.

3485 WHISTLE. Similar to Nos. 3483-3484, but in the form of a cat.
Length, 4¼ inches.
Similar to No. 109,657 U. S. Nat. Museum Coll. cf. Wilson. Smith Inst. An. Rept., 1896, p. 638. Wash. 1898.

3542 WHISTLE. Turtle form, in light brown pottery with red and brown markings. A circular opening in the top of the back. Imperfect.
Length, 2¼ inches.

3545 WHISTLE. Animal form in pottery similar to No. 3542.
Length, 2½ inches.

2377 WHISTLE. Animal form, suggesting a squirrel, in terracotta, slightly glazed, with dark brown markings. One finger-hole.
Length, 2½ inches.

3388 WHISTLE. Bird form with folded wings. Light brown pottery with red and brown markings. Two finger-holes.
Length, 2½ inches.

3387 WHISTLE. Bird form, similar to No. 3388, but with spread wings. Two finger-holes. Imperfect.
Length, 1¾ inches.

3519 WHISTLE. Cylindrical vase form finished at the top with a recumbent bird or animal form. Light brown pottery with red and brown markings. Two finger-holes.
Length, 2¾ inches.

2886 WHISTLE. Bird form, with two heads in dark brown pottery, slightly glazed. Two finger-holes.
Length, 2 inches.

Class II Wind Instruments Section A Whistles

3604 WHISTLE. Bird form in brown pottery, slightly glazed. Two finger-holes in each wing. Imperfect.
Length, 2 inches.

3605 WHISTLE. Bird form in unglazed brownish gray pottery. Two rows of incised dots around the neck. Four finger-holes.
Length, 3 inches.

3606 WHISTLE. Globular form in brownish gray pottery, unglazed. A grotesque face protruding from one side. Three finger-holes, but no mouthpiece.
Length, 1½ inches.

3607 WHISTLE. Similar to No. 3606.
Length, 1½ inches.

3554 WHISTLE. Bird form in slightly glazed brown pottery. Four finger-holes.
Length, 3½ inches.

3608 WHISTLE. Grotesque animal form in reddish brown pottery, unglazed. Four finger-holes.
Length, 4¼ inches.

3609 WHISTLE. Bird form with two heads. Reddish brown pottery slightly glazed. Two finger-holes.
Length, 2 inches.

645 WHISTLE. Bird form, originally resting on two feet, one missing. Light brown pottery, slightly glazed. Two finger-holes.
Length, 3½ inches.

2376 WHISTLE. A grotesque figure, with a broad flat head. Brown pottery. Three holes in front, one on either side.
Length, 4 inches.

2787 WHISTLE. In the form of a grotesque figure, showing the teeth. Dark brown pottery. Surface decorated with incised lines and circles. Badly broken. San Jose.
Length, 4 inches.

678 WHISTLE. Pottery tubing bent in triangular form, with a bulb at two corners, a head at the third. One of the three sides in the form of a grotesque animal.
Length of sides, 3½ inches.

2383 WHISTLE. Pottery in the form of a bird, painted with dark lines.
Length, 1¾ inches.

2547 WHISTLE. Turtle form, in brown pottery, painted with brown and pink lines, crossed lines on the back. Four holes. San Jose.
Length, 3 inches.

2381 WHISTLE. Reddish brown pottery in the form of a seated figure.
Length, 2 inches.

2382 WHISTLE. Gray pottery, egg-shaped with whistle head; the surface decorated with incised parallel lines and bands.
Length, 2¼ inches.

3169 WHISTLE. Brown pottery in the form of a grotesque bird. Four finger-holes.
Length, 1¾ inches.

2384 WHISTLE. Dark gray pottery in the form of a bird's head. Four finger-holes.
Length, 1½ inches.

CLASS III VIBRATING MEMBRANES

2386 DRUM. Made from a log of wood, hollowed out, the larger end covered with snake-skin. Talamanca Indians. Height, 2 feet 1 inch. Diameter of large end, 7 inches; small end, 4 inches. cf. Africa. Nos. 1380, 536. Java, Nos. 724, 725.

Division I Struck Section A Drums 1. With one head

The Huichol Indians employ a similar drum in the ceremonies attendant upon the placing of the *tawiakami* head plume. cf. Boas. Anniversary Volume, Anthrop. Papers written in honor of Franz Boas, pl. xxvii, p. 316, 1906.

CLASS IV SONOROUS SUBSTANCES

Division I Struck

677 RATTLE. Egg-shaped gourd attached to a bone handle. The smaller end of the gourd is pierced and the handle fastened with lacings of cord. From Talamanca. Length, 7¼ inches.

2847* MARIMBA. A wooden frame supporting twenty-five bars of wood, beneath each of which is suspended a box-like resonator.

Length, 5 feet 3 inches. Height of stand, 3 feet 6 inches.

The marimba is used principally along the Pacific coast in the vicinity of the Gulf of Nicoya.

*This instrument has been placed with Class IV in the kindred instruments of the Historical Groups.

WEST INDIES

CUBA

CLASS III VIBRATING MEMBRANES[1]

632 DRUM. *Tahona.* A cask-shaped shell of wood with two heads of skin held in place by cloth-covered hoops laced together with cords.
Height, 1 foot 2 inches. Diameter, 1 foot 2 inches.

Division I Struck
Section A Drums
2. With Two Heads[2]

CLASS IV SONOROUS SUBSTANCES

585 RATTLE. *Cacha.* A cone-shaped basket of castilla cane tapering to a small neck that is wound with cloth and bent in a hoop. On the top a circular disc of wood. The sound is produced by hard seeds the size of marbles.
Length 1 foot 4 inches. Diameter of head, 5 inches.
Used as an accompaniment to the guitar. A favorite instrument among the Creoles.

Division I Struck

673 RATTLE. *Guiro.* A slender gourd that tapers to a curved neck, the surface incised with parallel lines. One sound-hole.
Length, 1 foot 6 inches.
This is a form of the notched stick rattle and is used to mark time in native dances. Various types found in America are illustrated on the plate facing p. 184. cf. also No. 2272, Japan; No. 2333, China.

1437 RATTLE. *Guiro.* Similar to No. 673. Two sound-holes.
Length, 1 foot 3 inches.

1. Classes I and II not represented.
2. Section A 1 not represented.

Class IV Sonorous Substances Division I Struck

684 RATTLE. *Guiro.* A tin cylinder with corrugated surface, the ends pointed and a handle on one side.
Length, 1 foot 6 inches.

660 RATTLE. A cylindrical drum of tin with a straight handle of the same material.
Length, 11 inches. Diameter of cylinder, 3 inches.

659 RATTLE. "Judas scare." Tin. A straight handle with a ratchet at one end which is struck by a movable tongue in a revolving metal frame. On the top a miniature sprinkling pot.
Height, 7 inches.
Used in religious festivals.

594 PAIR OF RATTLES. Globes of earthenware painted white and indigo, with straight wooden handles.
Diameter of heads, 3½ inches. Length of handles, 8 inches.

593 DRUM (?). A globular earthenware vessel, similar to the rattles No. 594, with a bulbous neck and a circular hole 1¼ inches in diameter on one side.
Height, 12½ inches. Diameter, 8½ inches.
This instrument is evidently used in conjunction with the rattles No. 594, being of the same material and decoration. It may be a form of hand drum in which the sound is produced by beating the palm of the hand against the opening on the side; or again it might be used as a pottery trumpet similar to No. 3621, p. 246, or No. 503, Japan.

PORTO RICO

CLASS IV SONOROUS SUBSTANCES[1]

Division I Struck

674 RATTLE. *Guiro.* A long serpentine gourd with incised lines and pierced with fifteen small holes of various sizes. Presented by Raphael T. Betancourt, Porto Rico.
Length, 5 feet 7 inches. Diameter, 3 inches.
"The West Indian islanders accompanied their rhythmic *areitos*, or dances, with instruments, among which may

1. Classes I, II, III not represented.

be mentioned bells, tinklers, rattles, and drums. They had likewise a hollow calabash with notches cut on the exterior, which, when scraped with a stick or stone, emitted a rasping, rhythmic sound for the step of the dance. A similar instrument is still used by street musicians in Porto Rico and other West Indian islands. The aboriginal drum was made of a hollow log of wood, the form of which is shown in an illustration given in Oviedo. It is not unlikely that the drum employed in the African dances called *bombas* when held in the West Indies may be directly derived from this primitive drum of the aborigines, although it may have been imported from Africa."[1] The native name of the *guiro* in Porto Rico is *wis guirra*, and the sound is produced by rubbing the surface of the gourd with three wires projecting from a wooden handle like the tines of a fork.

2758 RATTLE. *Guiro*. Similar to No. 674. One sound-hole.
Length, 1 foot 3 inches. Diameter, 5 inches.

2788 RATTLE. Egg-shaped gourd pierced by a straight wooden handle.
Height, 10½ inches. Diameter of gourd, 4 inches.

2790 RATTLE. Similar to No. 2788.
Height, 10½ inches. Diameter of gourd, 3 inches.

2791 RATTLE. Similar to No. 2788, but egg-shaped. Decorated with bands of incised lines.
Height, 11 inches. Diameter of gourd, 4 inches.

2693 RATTLE. Similar to No. 2788.
Height, 8½ inches. Diameter of gourd, 4½ inches.

2789 RATTLE. Similar to No. 2788. The decoration geometric ornaments in circles.
Height, 8 inches. Diameter of gourd, 4½ inches.

1853 MARIMBA. Compass, 2 octaves and 2 notes. A frame of red wood supporting 27 slabs of wood one-half inch

1. Fewkes, J. Walter. Bur. of Ethnol. 25th An. Rept. 1903–1904, p. 210. Wash. 1907.

in width. Beneath each slab a tin cylinder with pointed end, painted yellow and lined with green.

Length, 4 feet 8 inches. Width, 1 foot 6 inches. Height, 2 feet 6 inches. Longest cylinder, 2 feet 3 inches. Shortest cylinder, 2½ inches.

SOUTH AMERICA

COLOMBIA

CLASS II WIND INSTRUMENTS[1]

2860* VERTICAL FLUTE. *Krena.* A tube of cane with mottled brown surface. Four finger-holes in front and one at the back. An additional hole on the side near the lower edge.
Length, 1 foot 5¾ inches.

Section A Whistles

Section B Beating Reeds
1. Single Beating Reeds

717 REED PIPE. *Pito.* A tube of reed with four finger-holes burnt in the wood. At the upper end a vibrating tongue cut in one side of the tube. Cartagena.
Length, 10½ inches.
Similar to the form of reed found in the *ẓummarah* and *arghoul* of Egypt, Nos. 2167, 2928, the *meijwiẓ* of Arabia, No. 445, and the *poongi* or *tubri* of India, No. 286.
The Suhin, Toothli, and Western Lenguas of Paraguay have an instrument made from a cow's horn with a reed mouthpiece similar to this.[2]

2. Double Beating Reeds

1457 REED PIPE. *Chirimia.* A conical tube of hard wood with six finger-holes and four additional holes for altering the pitch. Chibchas Indians.
Length, 11½ inches.
Mahillon. Catalogue vol. 2, p. 147.
The Chibchas or Muyscas previous to the conquest occupied the highlands between the headwaters of the

*This instrument is placed with Class II of the Kindred Instruments of the Historical groups.

1. Classes I and III not represented.

2. Hawtrey. Lengua Indians of the Paraguayan Chaco. Anthrop. Inst. of Gt. Britain and Ireland. Journal, vol. 30, New Ser. 3, p. 293. 1900.

Magdalena River and the Sierra Nevada de Merida. They later adopted the Spanish language and customs.

CLASS IV SONOROUS SUBSTANCES

Division I Struck

713 RATTLE. A cylinder of wood closed at both ends, in the interior of which a number of wooden pins are crossed at right angles.
Length, 9½ inches. Diameter, 2 inches.
Used by the Indians to accompany their songs and mark the rhythm of the dance.

VENEZUELA

CLASS I STRINGED INSTRUMENTS

Section A Plucked Strings

1597 PANDURINA. Body made of the half section of a gourd with neck and sound-board of wood. Fourteen metal frets in the finger-board. Ten gut strings arranged in pairs. Caracas.
Length, 1 foot 9½ inches. Diameter, 9½ inches.

1352 GUITAR. Made of unvarnished wood. Four gut strings. Five wooden frets on the finger-board. Caracas.
Length, 1 foot 10 inches. Diameter, 5½ inches.

CLASS II WIND INSTRUMENTS

Section A Whistles

3560 FLUTE. A tube of bamboo, the upper end closed by a node from which projects a prong, the dried stem of a leaf. On one side a square breath-hole. On the opposite side just above the lower node the tube is cut away. The note is varied by the insertion of the finger in the opening.
Anawahtan Indians, Orinoco River.
Length, 11¼ inches. Diameter, 1¼ inches.
cf. Mahillon. Catalogue, vol. 1, p. 175, No. 132; vol. 3, p. 313, No. 1834.

CLASS IV SONOROUS SUBSTANCES[1]

Division I Struck

2053 PAIR OF RATTLES. Globular gourds, the surface carved with a geometric floral pattern in relief. Small discs of leather where the handles pierce the gourds.
Length, 8½ inches. Diameter of gourds, 3½ inches.

1. Class III not represented.

STRINGED INSTRUMENTS
YUCATAN, MEXICO, AND SOUTH AMERICA
PP. 194, 226, 240, 243, 244

BRITISH GUIANA

CLASS II WIND INSTRUMENTS[1]

Section A Whistles

3592 BONE WHISTLE. Made from the femur of a small deer called *wiribiseri*. No finger-holes. The tube is open at both ends. Probably Wiapsiana Indians, located about the Rupununi and Essequibo Rivers.
Length, 6¾ inches.

Im Thurn describes the flutes and other wind instruments of the natives of British Guiana as follows: "Flutes are made simply by piercing the necessary holes in the bone of the jaguar or deer, or, though such are no longer common, a man. Intricate patterns are sometimes engraved on these flutes, and are colored black and red, to contrast with the pure white of the bone; and very long tassels of white cotton are fixed at each end of the instrument." Speaking of other wind instruments used by these natives the author says: "Wooden flutes, always used in pairs, are also made in somewhat the same way, of short pieces of bamboo-stem. Panpipes are made of hollow reeds. Rude wooden trumpets are said to have been made; and I once saw the fragments of one in an Indian house."[2]

3363 BONE FLUTE. *Wat-sa-pua*. Made from the femur of some small animal. A notch in the upper edge. Three finger-holes. From Demerara.
Length, 6 inches.

The name *wat-sa-pua* is furnished by Wilson[3] who states that bones of the American panther or jaguar are used in making these flutes. There is a similar specimen of Carib origin in the U. S. Nat. Museum Coll. (No. 4346), and another in the Academy of Natural Sciences, Philadelphia.

709 A PAIR OF BONE WHISTLES. The surface polished and discolored with age. No finger-holes. Open at both ends.
Length, 7¼ inches.

1. Class I and Section B, Class II, not represented.
2. Among the Indians of Guiana, p. 309.
3. Prehistoric Art. Smith. Inst. An. Rept., 1896, p 650. Wash. 1898.

Class II Wind Instruments Section A Whistles

716 BONE FLUTE. *Wat-sa-pua.* Made from the femu of some small animal. A notch in the upper edge. Four finger-holes.
Length, 8 inches.

685 BONE FLUTE. *Wat-sa-pua.* Made from the femur of some small animal. Three finger-holes. From Demerara.
Length, 8 inches.

3591 BONE FLUTE. *Wat-sa-pua.* Made from the femur of a puma. Three finger-holes. A cord attached with tassels of white deer hair. Probably Wapisiana, located about the Rupununi and Essequibo Rivers.
Length, 9½ inches.
cf. U. S. Nat. Museum Coll. No. 8700; also im Thurn. Among the Indians of Guiana, p. 309, fig. 29.

3593 FLUTE. A tube of bamboo peculiar to the region of the Owati Wow (creek). The tube is closed at the lower end, where it is pierced with two holes. At the upper end are two more holes. Wapisiana Indians, located about the Rupununi and Essequibo Rivers.
Length, 2 feet 2 inches.

690 PAIR OF WHISTLES. Each composed of two small fruit or nut shells bound together with cord and pierced at opposite ends with a single hole. From Demerara.
Length of shells, 2½ inches. Diameter, 1 inch.
There is a similar form of whistles found in Paraguay, where the shells are fastened to an eight-strand cord; they are called *cacique* (chief) whistles. When twirled rapidly on the end of a cord, a whistling sound is produced suggesting the pigeon whistles of China.

Section C[1] Cup-mouthpieces

3117 TRUMPET. A large side-blast trumpet formed of two sections of wood split lengthwise and hollowed out, then bound together with cord. The tube expands into a small bell at the end farthest from the mouth end, where it is covered with closely wound cord. The opposite end above the breath-hole, which is cut in the side, is finished with a border of fur.
Length, 4 feet 3½ inches.
There is a similar specimen with a differently shaped bell

1. Section B not represented.

in the Pitt Rivers Collection, University Museum, Oxford, England, No. 130. J. 43.

CLASS III VIBRATING MEMBRANES

3590 DRUM. Cylindrical shell of wood with heads of deerskin held in place by wooden hoops laced together with cords. Across one head a fibre cord is stretched to which is attached a splinter of cocerite palm which rattles when the drum is struck. Wapisiana Indians, located about the Rupununi and Essequibo Rivers. Division I Struck

Height, 12 inches. Diameter, 6 inches.

Im Thurn[1] gives a detailed description of a similar drum: "A suitable tree, generally aeta palm (*Mauritia flexuosa*) is felled, and a piece of the trunk, of the right height for a drum, being cut off, this is hollowed into a cylinder with a very thin wall. Two pieces of jaguar, deer, or monkey skin, for the top and bottom of the drum, have been previously stretched in a wooden frame and thoroughly dried in the sun. One of these is now fixed onto either end of the cylinder. A very fine double thread, in the middle of which is a slip knot, is then stretched diagonally across the skin at one end of the drum, and before this is finally drawn tight an excessively slender splinter of wood is passed through the slip knot, so that it rests on the skin at right angles to the line of the thread. The result is that the two ends of the drum when beaten produce different sounds; for the one on which is the string and splinter returns a metallic sound caused by the vibrations of the splinter against the skin. The skin of the baboon, or howling monkey, is preferred by the drum maker because it is supposed to possess the power of emitting the rolling, roaring sounds for which this monkey is celebrated."

699 DRUM. Cylindrical shell of wood with heads of skin, similar to No. 3590. From Demerara.

Height, 8 inches. Diameter, 12 inches.

700 DRUM. Cylindrical shell of wood with heads of skin held in place by thick hoops covered with cloth and laced together with cord of fibre.

Height, 6 inches. Diameter, 7 inches.

1. Among the Indians of Guiana, p. 308 ff.

Class III Vibrating Membranes Division I Struck

701 DRUM. Cylindrical shell of wood with heads of skin, similar to No. 3590.
Height, 9½ inches. Diameter, 9½ inches.

702 DRUM. The shell cut from a log of wood larger at the head and tapering to the base. A single head of skin held in place by a wooden hoop fastened with lacings of cord. The tension is regulated by large wooden pegs inserted under the cord.
Height, 2 feet. Diameter of head, 9 inches.
This drum resembles those found in Africa, the form having doubtless been introduced by negro slaves.
cf. Africa Nos. 536, 537, 538.

CLASS IV SONOROUS SUBSTANCES

Division I Struck

723 RATTLE. A large bamboo tube with a rattle of nut-shells or fruit pits attached to a fringe of cotton cord wound about the center of the tube. From Demerara.
Length, 3 feet 3 inches. Diameter, 2 inches.
This is doubtless one of the instruments mentioned by Im Thurn as used by the natives of British Guiana in their numerous *paiwari* (native liquor) feasts. After describing the customs of the natives he states, "Some whirl sticks to which are tied bunches of certain seeds (*thevetia nereifolia*) which, when struck against the ground, clash and rattle; some beat time with hollow bamboos covered at one end with skin, like a drum, and ornamented with bunches of these same seeds; some have small rattles ornamented with bright-colored feathers; some have drums; some have much ornamented flutes made of animal bones; some have flutes made of hollow reeds; some have panpipes, and some have sticks topped with a rude wooden and painted image of some bird, fish, or animal."[1] The same author describes another instrument akin to the drum, which is made by stretching a piece of baboon skin over one end of a four-feet-long piece of hollow bamboo, of a particular and rare species. This instrument when repeatedly struck against the ground produces a drum-like sound.[2] Brett[3] also

1. Among the Indians of Guiana, p. 323.
2. Idem, p. 309.
3. The Indian Tribes of Guiana, p. 157.

mentions a similar instrument used by the Arawaks of Wakapoa Lake in their Owiarri Dance in which each performer carried a rod about twelve feet in length with gourd rattle attached to the top, striking the lower end of the rod upon the earth to mark the rhythm of the dance. The women dancers wore ornaments of pendant beetle wings similar to No. 714.

Mr. Hawley of the National Museum, Washington, has recorded a number of instruments of this type in which the column of air is set in vibration by concussion, the note produced varying with the length of the tube. Among the Indians of San Gabriel, Brazil, a bamboo stamping stick of this kind is called *ambnuba;* it is made from a section of bamboo with one end closed by a joint. The tube is held vertically and the closed end struck on the ground; sometimes the open end is struck with a palm leaf beater like a fan. In Hawaii a similar instrument is called *pa-ipu, paha hula* or *hokea.* One in the National Museum collection (No. 45,619) from Korea bears the name *juk-jang-go,* while in the Malay peninsula the Sakai have a like form called *kowelniss, tuang-tuang,* or *tun-tong,* which the Semang, another tribe, call *pen-ahh.* These bamboo stampers are also mentioned by Ratzel[1] who quotes Cook's description of those found among the Tonga.

3362 RATTLE. Made of nutshells strung on a braided cotton cord and ornamented with occasional strings of red beads and smaller shells. Demerara.
Shells, 1½ inches.

697 RATTLE. Similar to No. 3362. Made of nutshells or fruit pits. Demerara.
Shells, 1¾ inches.

698 RATTLE. Similar to 3362. Made of nutshells or seeds. Worn on the neck. Demerara.
Shells, ¾ inch.

714 RATTLE. A circle of woven cord strung with iridescent shells of beetles' wings.[2] Demerara.

1. History, vol. 1, p. 194.

2. The beetle probably is the *Buprestis* which has purple and green shot wings. cf. Im Thurn. Among the Indians of Guiana, p. 146.

Class IV
Sonorous
Substances
Division I
Struck

Diameter of circle, 4 inches, Shells, 2 inches.
The Jivaros Tribe of the Upper Amazon, Peru, have a similar rattle.
cf. also U. S. Nat. Museum Coll. No. 8730.
A rattle similar to this is worn from the back head-dresses among the Indian chiefs of British Guiana.
Brett writing in 1868 describes the Owiarri Dance of the Arawak Indians at Wakapoa as follows: "These performers carried rods about 12 feet in length, on the top of which were fixed small gourds with stones in them, and decorated with streamers of silk grass, painted red. They ranged themselves in parallel rows as before, facing each other; and danced backwards and forwards, striking the lower ends of their rods upon the earth, and keeping time with the clash. Some young women went up to these dancers from time to time, and taking them by the arm danced with them; then at a signal given by their partners, who shook the coverings of beetles' wings and other ornaments with which their legs were adorned, they ran off to their companions like frightened deer."[1]
The Indians of the Northwest Coast have a similar rattle in which pendant puffinbeaks or dew-claws take the place of the beetles' wings. See No. 2732. p. 100.

1498 RATTLE. *Shak Shak.* A cylinder of basketwork woven in a fret pattern. The end of the straw braided and looped back form a straight handle. Demerara.
Length, 8½ inches. Diameter of top, 1½ inches.
Similar to No. 54,186, U. S. Nat. Museum Coll. A similar specimen in the Haldeman Collection, Museum of Academy of Natural Sciences, Philadelphia, is labeled as from the Carib Indians. cf. Wilson, Smith Inst. An. Rept., 1896, p. 650. Wash. 1898.
Dr. Otto Stoll[2] illustrates a similar rattle of woven cane from Guatemala.

3361 RATTLE. *Shak Shak.* An egg-shaped gourd pierced with a wooden handle, the top ornamented with parrot feathers. Asmoach Indians. Demerara.
Length, 1 foot 6 inches. Diameter of gourd, 5¾ inches.

1. The Indian Tribes of Guiana, p. 157.

2. Die Ethnologie der Indianerstämme von Guatemala, vol. 1, suppl. 1, pl. I.

3594 RATTLE Shell Shak. A globular yellow gourd covered by a wooden rod which extends from below around the top of the gourd, where it is covered with yellow and black feathers. The round handle which is without the gourd is rectangular and the four edges for a distance of three inches are closely notched.
Length, 10 inches. Diameter of gourd, 3 inches.
This form of rattle is peculiar to the Arawak Indians of U. S. Nat. Museum Coll. Nos. 3164 and 4270 from Demerara.

3595 RATTLE Small pear-shaped gourd of bright orange color.
Length, 3 ½ inches. Diameter 2 ½ inches.

PERU

Prior to the arrival of the Spaniards the natives had a strange fondness for instruments of percussion, especially the shell-like and phaseoli, certain rattles and bells and the thunder or drum. The drum, a small affair, is without doubt of European origin just as certain other percussive forms found in South America are importations from Africa. The word instruments mean the "voice or sounds of the sounds, the sounds or flute, the bell-like or the thunder, the drum, a certain drum flute."

Brown in writing of the Peruvian Indians of the Andes, describes the Chibcha Indians as of a "primitive and unexpected" type of musical instruments, although often elegant and simple as children among the ancient dwellings of the Quechua and thus termed by the natives of Peru as "Quechua" as a one known as "the fall of the drum." The word "he called because the other instruments of that peculiar type of the drum in the full sentiment of the rock, which, due to the drum's giving up from stone cave below, gave forth a continuous resonant sound." which was heard far and wide.

The various forms of pottery were called huaco-pottery. A pottery vase of one of these instruments found in a Peruvian grave by the French General Pinedo is shown to the group of percussion instruments this group. A number of similar rattles are

1. The rabbit and the Amazon. Life and Travels in Peru, p. 127-8, 1911.
2. The beginning of the original of the drums is purchased by Engel to the Rev. James J. H. Burton, Royal Museum of Edinburgh. Transcription of the drum, or "drum" drums by Engel. Various instruments in the Antiquarian Museum of the age

furnished by Cobo, who in describing the culture of the natives of Peru and Bolivia, writes in 1683 of their fêtes as follows:[1]

"Tenian para ello muchos instrumentos músicos, los cuales nunca tocaban sino en los bailes y borracheras, y todos hacían el són poco suave, y menos artificioso pues cualquiera que se pone á tocarlos, á la primera leción queda maestro. El instrumento más general es el atambor, que ellos llaman *huáncar*; hacíanlos, grandes, y pequeños, de un palo hueco tapado por ambos cabos con cuero de Llama, como pergamino delgado y seco. Los mayores son como nuestras cajas de guerra, pero más largos y no tan bien hechos; los menores como una cajeta pequeña de conserva, y los medianos como nuestros tamborinos.

"Tócanlo con un solo palo, el cual á veces por gala está cubierto de hilo de lana de diferentes colores; y también suelen pintar y engalanar los atambores. Tócanlo así hombres como mujeres; y hay bailes al són de uno solo, y otros en que cada uno lleva su atambor pequeño, bailando y tocando juntamente. También usan cierta suerte de adufes, nombrados *huancartinya*; pífano, llamado *pincollo*. *Antara* es otro género de flauta corta y ancha. *Quenaquena* es una caña sola como flauta, para cantar endechas. *Quepa* es una suerte de trompetilla que hacen de un calabazo largo. Usan también en sus bailes tocar un instrumento compuesto de siete flautillas, poco más ó menos, puestas como cañones de órganos, juntas y desiguales, que la mayor será larga

1. The passage translated reads as follows: They had for this purpose many musical instruments which they never played except at balls and feasts, and all gave forth sounds that were neither soft nor skillful, for anyone taking them up can at the first trial become a master. The most common instrument is the drum which they call *huancar;* they made them both large and small of wood hollowed out, covered at both ends with skin of the Llama, like dry and thin parchment. The largest are like our own war drums but longer and not so well made. The smaller are somewhat like a preserve jar; the medium ones like our tambourines. They are played with a single stick which sometimes for show is covered with worsted of different colors, and sometimes they paint and decorate the drums. Both men and women play them, and sometimes only one is used at a dance, while with other dances each person will carry his own small drum dancing and playing at the same time. They also use a sort of tambourine called *huancartinya;* and fifes called *pincollo*. *Antara* is another kind of flute, short and broad. *Quena* is a single pipe like a flute for singing dirges. *Quepa* is a sort of little trumpet that they make from a long calabash. They use also at their dances an instrument made up of seven little flutes, more or less, put together like the pipes of an organ and of different sizes. The largest is about the length of a hand, the others yet smaller in their order. This instrument is called *ayarichic* and it is played by putting it to the lower lip and blowing into the said flutes. In this way they make a deafening and anything but sweet sound. They also play on shells and other instruments of less importance.

un palmo y las demás van descreciendo por su orden: llaman á este instrumento *ayarichic*, y tócanlo puesto sobre el labio bajo y soplando en las dichas flautillas, con que hacen un sordo y poco dulce sonido. Tocan asimismo caracoles y otros instrumentos de menos cuenta."[1]

The names furnished by Bandelier[2] for panpipes of the Aymara of Titicaca Island, Peru, show Spanish influence. He says: "The pan flute in its tiniest form is *kena-kena*—and in its tallest, nearly the size of a full-grown man, *zampona*." He also states that these people have a large variety of drums and that a "clarinet-like instrument or fife" is the constant companion of nearly every Indian while traveling. Other native names furnished by the same author are: *zacapa*, rattles of beans; *churu*, rattles of snails; *chaurara*, rattles of copper and silver.

CLASS II WIND INSTRUMENTS[3]

715 BONE FLUTE. Made from the femur of a deer. The surface polished and discolored. A notch in the upper edge below which are four finger-holes. Section A Whistles
Length, 6¾ inches.
Similar to No. 3592 (p. 227), from British Guiana, a modern example.

1315 BONE FLUTE. Similar to No. 715.
Length, 6½ inches.

3432* WHISTLE. Animal form. Light brown pottery spotted with yellow. One hole in the center of the back. Coast district. Presented by the American Museum of Natural History, New York.
Length, 3¾ inches.

3433* WHISTLE. Vase form in reddish brown pottery, a small handle on one side, a hole in the top. From Cuzco. Presented by the American Museum of Natural History, New York.
Diameter, 1⅞ inches.

3431* WHISTLE. Bird form in brown pottery. From the

1. Historia del Nuevo Mundo, vol. 4, p. 228 ff. 1893.
2. The Islands of Titicaca and Koati, p. 112. Idem, p. 157, note 131.
3. Class I and Section B, Class II not represented.
* These instruments have been placed with the Prehistoric Group.

Class II
Wind
Instruments
Section A
Whistles

coast in the vicinity of Lima. Presented by the American Museum of Natural History, New York.
Length, 3 inches.

3430* WHISTLE. A small tube of dark pottery, flattened at one end and pierced with a single hole. From the coast in the vicinity of Lima.
Length, 2¾ inches.

3399* WHISTLE FLUTE. Made from the tibia of a llama. Four holes in front, one at the back.
Length, 9⅛ inches.

3424* WHISTLE FLUTE. Made from the ulna of a deer. Six holes in front in groups of two; one hole ½-inch from the top on one side, two holes on the opposite side, and two holes at the back 1¼ inches from the bottom. From the vicinity of Lima. Presented by the American Museum of Natural History.
Length, 4¼ inches.

3400* WHISTLE FLUTE. Similar to No. 3424.
Length, 4¼ inches.

3425* VERTICAL FLUTE. A tube of cane or bamboo. Seven holes in front. Cuzco. Presented by the American Museum of Natural History.
Length, 9½ inches.

2119* SYRINX. *Huayra-puhura.* Eight pipes of greenish stone. Four of these pipes have lateral finger-holes, which when closed lower the pitch a semitone. These holes are on the second, fourth, sixth, and seventh pipes. Reproduction in plaster from a cast in the Berlin Museum. Original found in a Peruvian tomb, South America.[1] Procured through the courtesy of the American Museum of Natural History, New York.
Height, 5⅜ inches. Width, 6¼ inches.

The Peruvian Indians (Cholo-Quechua) of the Andes have panpipes and flutes. The flute is sometimes played inside a large earthen pot or olla.[2]

*These instruments have been placed with the Prehistoric Group.

1. See note 2, page 265.
2. Enock. Life and Travels in Peru, p. 148.

POTTERY TRUMPETS. PERU
P. 237

1286 TRUMPET. *Cqueppa.* A conical tube in terracotta. The tube has one turn near the mouthpiece and terminates in a bell modeled in the form of a dragon head. Truxillo. Length, 11 inches. Diameter of head, 3¼ inches.

Class II Wind Instruments Section C[1] Cup Mouthpieces

cf. Squier. Peru, p. 182. Mortimer[2] mentions the use of the conch-shell trumpet by the Peruvians, the native name for which is *bosina*. Sir Clements Markham[3] also refers to the use of the sea-shell trumpets in the Hua rachicu festival of the Inca at which ceremonial youths received knighthood. The same author[4] mentions the native name of flutes as *pincullus*.

1287 TRUMPET. *Cqueppa.* Similar to No. 1286.
Length, 11 inches. Diameter of head, 2 inches.

3665 TRUMPET. *Cqueppa.* Similar to No. 1286. Gift of Wm. M. Grinnell, 1912.
Length, 1 foot 3 inches. Diameter of head, 2 inches.

1285* TRUMPET. *Cqueppa.* A conical tube of red clay with one turn. From Truxillo. Presented by the American Museum of Natural History, New York.
Length, 8¾ inches.

1715 WHISTLING JAR. Light gray pottery, unglazed. Similar to No. 1959. The rounded top with a band of ornament, and a seated bird with a large beak. Gift of Morris K. Jesup.
Height, 8¼ inches. Width, 6 inches.

1714 WHISTLING JAR. Reddish brown pottery, unglazed. Similar to No. 1715. On one side of the top a straight neck, on the other, a bearded figure with a horned head-dress; the two joined by a curved band. Gift of Morris K. Jesup.
Height, 9½ inches. Diameter, 7 inches.

1959 WHISTLING JAR. Two bottles of brown pottery joined at the base and having a connecting band of open-work design between the straight necks. On the top of one

1. Section B not represented.
2. Peru, p. 438.
3. The Incas of Peru, p. 129. 1910.
4. A History of Peru, p. 457. 1892.

*This instrument has been placed with the Prehistoric Group.

Class II
Wind
Instruments
Section C
Cup mouth-
pieces

bottle a grotesque animal form. The surface ornamented with dots and grotesque birds in outline. From Guadalupe. Dept. La Libertad, Province Pacasmayo.
Height, 4¼ inches. Diameter of each bottle, 3½ inches.
Similar in form to No. 107,552, U. S. Nat. Museum Coll.
cf. Smith. Inst. An. Rept., 1896, p. 660, Wash. 1898.

1717 WHISTLING JAR. Brown pottery in the form of two eggs joined at the center of one side. On the top of the handle a bird with a large beak. Gift of Morris K. Jesup.
Height, 5 inches. Width, 6¼ inches.

1718 WHISTLING JAR. Light brown pottery in the form of a bird. Gift of Morris K. Jesup.
Height, 6¼ inches.
Similar to No. 88,263, U. S. Nat. Museum Coll.
cf. Smith. Inst. An. Rept., 1896, p. 655. Wash. 1898.

2117 WHISTLING JAR. Light brown pottery in the form of a seated figure playing a flute. From the Barlow Collection.
Height, 11 inches. Diameter, 4¼ inches.
In the account of an excursion made to Moche, Squier[1] illustrates and describes the great pyramid sometimes called *El Templo del Sol* (The Temple of the Sun), from which source this specimen was acquired. He also mentions a band of natives who saluted the travelers with a drum and *quina*, an Indian flute. A similar jar is illustrated by the same author on p. 181.

1716 WHISTLING JAR. Two receptacles of dark gray pottery joined at the center. The one with the straight neck ornamented with a figure wearing a plumed headdress modeled in relief on a background of dots. On the top of one, two seated birds. Gift of Morris K. Jesup.
Height, 7¼ inches. Width, 8 inches.

1713 WHISTLING JAR. Two globular jars of pottery joined at the center with a connecting handle at the necks; on one a bird's head. Surface ornamented with zigzag lines and dots in a darker color. Gift of Morris K. Jesup.
Height, 6 inches. Width, 6¼ inches.

1. Peru, p. 125 ff. cf. also Hamy. Galerie Américaine du Musée d'Ethnographie du Trocadéro, pl. XLII, fig. 122. 1897.

3423 WHISTLING JAR. Two bottles of dark gray pottery, one ornamented with a panel of zigzag lines on a background of dots, above which rises a head wearing a horned head-dress. Chepen.
Height, 6 inches. Width of each bottle, 4¼ inches.

689 WHISTLING JAR. Gray pottery. A bulbous bottle with a straight neck joined near the base to a similar vessel in the form of a bird. At the top a handle. The surface decorated with panels of raised lines and dots.
Height, 6½ inches. Width, 7½ inches.

1958 WHISTLING JAR. Dark gray pottery. Four bulbs, two with straight necks, joined by a connecting bar. On one side a seated ape, the head missing. From Guadalupe, Dept. La Libertad, Province Pacasmayo.
Height, 6 inches. Width, 6 inches.

1957* WHISTLING JAR. Pottery. A double vase of painted ware, the flattened sides decorated with geometric bands, a grotesque bird in the center of each, the two air-chambers connected by a short tube.
Height, 6 inches. Width, 6¼ inches.

CLASS IV SONOROUS SUBSTANCES[1]

3434 CLAPPERS. A pair of spondylus shells. From Surco. Presented by the American Museum of Natural History, New York. Division I Struck
Diameter, 4 inches.

2051-2052 BELLS. Fragments of bronze bells, quadrangular at base and tapering to the top. The surface corroded.
Diameters, 2¾ inches x 2½ inches; 3 inches x 2 inches.

3428* BELL. Copper. Bean-shaped body with an eyelet at the top, a narrow opening around the lower edge. Surface corroded. Island of Titicaca. Presented by the Museum of Natural History, New York.
Length, 1 inch.

*This instrument has been placed with the Prehistoric Group.
1. Class III not represented.

Class IV Sonorous Substances Division I Struck

2050* BELL. Copper fragment. Surface corroded. Dimensions, 2 x 2¼ inches.

3427* RATTLE. Made from a gourd, a hole pierced on one side, the seeds forming the rattle. Presented by the American Museum of Natural History. Diameter, 4¼ inches.

3426* RATTLE. Seeds of the laurel tree, strung on a cord of vegetable fibre. Used in the dance. Surco. Presented by the American Museum of Natural History, New York. Diameter of seeds, ½ x ¾ inches.

BOLIVIA

CLASS I STRINGED INSTRUMENTS

Section A Plucked Strings

704 PANDURINA. Body the shell of an armadillo, the neck and sound-board of wood. Ten string pegs, the strings tuned in pairs. From La Paz. Length, 1 foot 8½ inches. Diameter, 4½ inches.
cf. note 1 to No. 635, p. 194.

CLASS II WIND INSTRUMENTS

Section A Whistles

711 PANPIPES. Sixteen tubes of bamboo, arranged in two rows, eight closed at one end and eight open at both ends. Bound together with strips of cane. From La Paz. Longest tube, 11½ inches. Shortest, 2¾ inches.

Boman[1] writing of the Susquenos Indians of the Argentine Republic, describes three different varieties of panpipes which he states are not made by these Indians, but are purchased from the Indians of Bolivia. The general name of these pipes is *fusa* (a Spanish note of music) The largest size is called *sanja;* those of sixteen pipes, *arca*, and still smaller ones with fourteen pipes, *ira*. These Indians also have a cane flute with five finger-holes, the *quena;* this is accompanied by a small hand drum, the *caja*, which is suspended from the musician's

*These instruments have been placed with the Prehistoric Group.

1. Antiquités de la Région Andine de la République Argentine et du Désert d'Atacama II. Mission Scientif., p. 463 ff. 1908.

INSTRUMENTS OF SOUTH AMERICA
PP. 225–246

neck and struck with one hand while the other manipulates the flute, suggesting the pipe and tabor (European Section No. 2308) of England. They also have a large drum with heads of sheepskin called *bomba*. Class II Wind Instruments Section A Whistles

712 PANPIPES. Fourteen tubes of bamboo placed side by side and bound together with fibre cord. Lower ends closed. Several tubes missing. From La Paz.
Longest tube, 8 inches. Shortest, 4½ inches.

710 PANPIPES. Sixteen tubes of bamboo, similar to No. 712. From La Paz.
Longest tube, 7¾ inches. Shortest, 2 inches.

CLASS IV SONOROUS SUBSTANCES[1]

3429* BELL. Copper. A slender neck expanding into a flat bell. Clapper missing. Surface corroded. From Sicasica. Presented by the American Museum of Natural History. Height, 1¾ inches. Division I Struck

CHILE

CLASS II WIND INSTRUMENTS[2]

2699 WHISTLE. A lump of light brown clay with a flattened projection on one side pierced with a hole. Reproduction in plaster. Section A Whistles
Length, 4½ inches. Width, 1¾ inches.

2698 WHISTLE. Gray clay modeled in the form of a panpipe with three tubes. A flattened projection on one side bored with a hole. Reproduction in plaster.
Length, 7 inches. Width, 2¼ inches.
Saville[3] illustrates a similar whistle from Manabi, Ecuador. One from Guatemala described by Hough[4] is of terracotta and has four tubes, each with a slit near the upper end, "all blown by one mouthpiece, having a

1. Class III not represented.
*This instrument has been placed with the Prehistoric Group.
2. Other classes not represented.
3. The Antiquities of Manabi, Ecuador, vol. 1, pl. XLIX, 1907.
4. The Ancient Central and South American Pottery in the Columbian Historical Exposition at Madrid in 1892. Wash. 1895.

Class II Wind Instruments Section A Whistles

septum, which conducts the air on either side to a pair of tubes."

2696 WHISTLE. Gray clay modeled in the form of an elongated cone. Reproduction in plaster.
Length, 11 inches. Diameter, 1¾ inches.

2697 WHISTLE. Red clay modeled in the form of a flattened cone. Two knob-like projections on the sides, each pierced with a hole. At the smaller end a breath-hole. Reproduction in plaster.
Length, 8¾ inches. Diameter, 3¾ inches.

BRAZIL

CLASS I STRINGED INSTRUMENTS[1]

Section A Plucked Strings

708 HARP. Made from a rod of palm wood and a gourd. The stick rests on the gourd, which acts as a resonator, and above this rises an upright bridge with notches on one side. The four strings are made by loosening strips of the bark, which are raised from the surface and slipped into the notches of the bridge; their tension is regulated by rings of the bark, which slide along the rod, over the loosened strips of bark. From the district of the Upper Purus River, a tributary to the Amazon.
Length, 5 feet 4½ inches.

Mr. Henry Balfour, of the Pitt Rivers Museum, Oxford, writes in regard to this instrument, that while the Upper Purus, a tributary of the Amazon, seems out of the way for an African instrument to have reached, still the spread of African instruments introduced by the slave trade, has been very wide, and in several instances has passed beyond the limits of the immigrant negro population. It is not likely that a complex instrument should be independently arrived at in two widely separated regions, with so identical a result. Instruments with the string slit from the surface of a reed or bamboo are known in British Guiana, though these have no resonators and are much simpler than the present specimen.

As Mr. Balfour states, this type of instrument, a variant of the musical bow,[2] is probably an importation by Afri-

1. Section B not represented.
2. The musical bow of Brazil, the *umcunga*, is described by Balfour (Musical

can slaves, as it is identical with the *muet*[1] of the Kongo District, West Africa. Ewbank[2] illustrates and describes the *ganzee* (which he calls *marimba*) as an instrument in common use among the slaves, who play African airs upon it. The melodies chanted by the negroes are also often of African origin, and, as the same author states, the "porters in moving household effects jog along to the accompaniment of the Angola warble, the leader marking time with a gourd rattle fringed with rags. . . . Every gang of coffee carriers has a leader who commonly shakes a rattle to the music of which his associates behind him chant." Im Thurn[3] mentions a similar instrument to this and describes it as an aeolian harp. "This," he states, "is formed from the leaf-stalk of the aeta palm (*mauritia flexuosa*) by picking and separating without severing, four or five feet of several of the parallel fibres of which the skin of the stalk consists; a bridge like that of a fiddle is then placed under each end of these fibres, so as to raise them from the level of the stalk. The leaf-stalk thus prepared is fastened upright in some exposed place, and the wind passing through the strings causes a soft musical sound which rises and falls as the strength of the breeze varies."

705 CITHER. Pear-shaped body of wood that tapers from a rounded base to the neck. The back round. The neck and front board of light wood, finger-board of ebony inlaid with four pearl dots and sixteen metal frets. Open peg-box finished with a carved head of negroid type. Eight strings arranged in pairs, six of silk overspun with wire, two of wire. Eight metal screws for tuning.
Length, 1 foot 8 inches. Diameter, 6 inches.

707 GUITAR. *Tipla*. Body of wood, stained black, the

Bow, p. 48) as a tube of rattan with a string stretched from one end to about two thirds its length and tied. The bow is held against the throat or vocal cords and the string is struck with a small stick. Meyer (in Smith. Inst. An. Rept. 1898, p. 562, pl. LVII, 10) writing of the bows and arrows of Central Brazil, states that the Suya fasten a bored tecum nut on the tip of the shaft, which, when the arrow is projected in flight, produces a clear whistling sound. The same principle is demonstrated in the pigeon whistles of China.

1. cf. Nos. 3528 and 1467, African section.

2. Life in Brazil, pp. 92, 111, 112, 117.

3. Among the Indians of Guiana, p. 310.

Section C
Bowed Strings

back of the neck red; the sound-board unstained. Seven metal frets on the finger-board. Ten string pegs.
Length, 1 foot 6½ inches. Diameter, 4½ inches.
cf. Schmidt, Indianerstudien in Zentralbrasilien, p. 143, fig. 26. Similar to the *charango* (Berlin Museum, V. B. 5007) of the Bolivian Indians.
cf. Boman. Mission Scientifique, p. 465, 1908.

706 POCHETTE. *Rabeljo.* A narrow body of stained wood with a short neck and open peg-box finished with a carved head of a demon. Two crescent sound-holes. Four gut strings.
Length, 2 feet 5 inches. Width, 3 inches.

3524 VIOLIN. European model. Made of natural wood, with ornamental inlay of dark wood. Finger-board, tail-piece, and pegs of dark wood. Two S sound-holes.
Length, 1 foot 11 inches. Width, 7¾ inches.
This instrument has two bows; one, a European model of unstained wood, the other, a natural twig strung with horsehair.

CLASS II WIND INSTRUMENTS

Section A
Whistles

722 FLUTE. *Poo-do-parana.* A tube of bamboo in two sections bound at intervals with dried grass. The surface of the tube is decorated with the grass laid on in a zigzag pattern. There are three holes, two in the longer section and one in the short piece. These are placed 2⅜, 17⅜, 33⅜ inches from the end of the longer piece. Possibly a nose flute.
Length, 3 feet 9½ inches.
Koch-Grunberg illustrates and describes the Uaneui Dance of the Siusi[1] of northwest Brazil in which the natives beat time upon the ground with large tubes of bamboo. In another instance the dance was accompanied by panpipes and a number of large flutes (*yapurutu*[2]) some five feet in length.

718 WHISTLE FLUTE. Bamboo with six finger-holes. On one side, half an inch from the lower end, a square hole.
Length, 11 inches.

1. Globus, 1906, p. 346. Also note to No. 723, p. 230.
2. Idem, p. 349.

721 VERTICAL FLUTE. A tube of bamboo with a notch in the upper edge. Four finger-holes.
Length, 1 foot 11 inches.
Schmidt[1] describes a flute with four finger-holes, from the Nakukua. Berlin Museum Coll., V. B. 5285.

720 VERTICAL FLUTE. Similar to No. 721. Six finger-holes.
Length, 1 foot 7½ inches.

719 TRANSVERSE FLUTE. A tube of bamboo with six finger-holes.
Length, 1 foot.

1618 HORN. *Caracasha.* A tube of wood with breath-hole on the side similar to the African horns. The surface covered with basketwork in a fret pattern. The bell of the instrument made from a bottle-shaped gourd. Lower Amazon. Section C[2] Cup Mouthpieces
Length, 1 foot 11 inches. Diameter of bell, 3¼ inches.
The Carib Indians of Guiana have horns of this character. Ewbank[3] mentions an interesting *caziquis* (chief) trumpet in the Museo Nacional of Rio Janeiro among other aboriginal instruments. This is made from the tail of an alligator hardened and blackened with age and curved like a French horn, the bell originally having been edged with brightly-colored feathers. There are also double bone flutes, one having four finger-holes in each tube below the cord binding.
Bandelier[4] refers to cow horn trumpets under the name of *pu-tu-to.* In primitive times conch, clay, and copper trumpets were used.

1532 HORN. *Caracasha.* Similar to No. 1618, the bell an oxhorn.
Length, 2 feet. Diameter of bell, 3¼ inches.

686 HORN. Oxhorn, the surface engraved with borders of leaves and a human figure crudely drawn. The end fitted with a cup mouthpiece.
Length, 1 foot 10 inches. Diameter of bell, 3½ inches.

1. Indianerstudien in Zentralbrasilien Ergebnisse und Ethnologische Ergebnisse einer reise in den Jahren 1900 bis 1901, p. 92, fig. 11.
2. Section B. Reeds not represented.
3. Ewbank. Life in Brazil, p. 121.
4. The Islands of Titicaca and Koati, p. 93.

Class II Wind Instruments Section C Cup Mouthpieces

3511 TRUMPET. A wooden cylinder formed of two sections of wood split lengthwise, hollowed out and the sides cemented together. A long straight neck finished in a block carved in the form of an arrow-head, in the side of which is the breath-hole.
Length, 3 feet 7½ inches. Diameter of bell, 2½ inches.
Funeral trumpet of the Bororo Indians, a tribe located in western Brazil about the head waters of the River Paraguay.
A similar trumpet is illustrated and its use described by von den Steinen.[1] cf. U. S. Nat. Museum Coll. No. 210,869.

3621 TRUMPET. Brown pottery, unglazed. Pear-shaped, with a flaring bell at the larger end. On one side a circular opening ¾ of an inch in diameter. Around the neck of the bell a cord of dried bark with a carrying loop.
Length, 7½ inches.

CLASS III VIBRATING MEMBRANES

Division I Struck Section A Drums 2. With two heads[2]

1834 DRUM. Cylindrical shell of wood with heads of skin held in place by a lacing of cords. Rio Negro region.
Height, 7 inches. Diameter, 8¼ inches.

CLASS IV SONOROUS SUBSTANCES

Division I Struck

1453 RATTLE. Made of nut shells strung on fibre rope. From the Upper Amazon.
Shells, 1¼ inches.
Shell rattles similar to this are used by the medicine men of the Gran Chaco Indians of Paraguay.
The instruments of the Chaco Indians of Paraguay are described by Hawtrey,[3] as follows: "They have a round flat whistle worn about the neck; it has a hole at the top which is held to the lips while the thumb and forefinger make the notes from two side holes. They also use flutes of bamboo or bone and as well a rude fiddle made from a block of wood with one string of horsehair.

1. Unter den Naturvölkern Zentral-Brasiliens, p. 496.
2. Section A 1 not represented.
3. The Lengua Indians of the Paraguayan Chaco. Anthrop. Inst. of Gt. Britain and Ireland. Journal, vol. 30, New Ser. pl. XLI, figs. 1, 2, 3. 1900.

APPENDIX

I CLASSIFICATION
II ALPHABETICAL LIST OF LINGUISTIC FAMILIES
III NOTES

APPENDIX I

TABLE OF CLASSIFICATION

CLASS I STRINGED INSTRUMENTS

Division I. Without a Keyboard.
- Section A. Plucked.
- Section B. Struck.
- Section C. Bowed.

Division II. With a Keyboard.
- Section A. Plucked.
- Section B. Struck.
- Section C. Bowed.

Division III. With Automatic Mechanism.

CLASS II WIND INSTRUMENTS

Division I. Without a Keyboard.
- Section A. Whistles.
  1. Vertical Flutes.
  2. Transverse Flutes.
- Section B. Reeds.
  1. Beating Reeds. (a) Single. (b) Double. (c) Single and Double Reeds with Air Reservoir.
  2. Free Reeds.
- Section C. Cup Mouthpieces.

Division II. With a Keyboard.
- Section A. Whistles and Beating Reeds.
- Section B. Free Reeds.

Division III. With Automatic Mechanism.

CLASS III VIBRATING MEMBRANES

Division I. Struck.
Section A. Drums.
1. With one head.
2. With two heads.
Section B. Rattles.

Division II. Rubbed.

CLASS IV SONOROUS SUBSTANCES

Division I. Struck.

Division II. Plucked.

Division III. Rubbed.

CLASS V MUSICAL ACCESSORIES AND ILLUSTRATIO

APPENDIX II

ALPHABETICAL LIST OF LINGUISTIC FAMILIES NORTH OF MEXICO.[1]

ADAIZAN FAMILY. Originally located in Texas. The remnant of the group finally absorbed by the Caddoan.

ALGONQUIAN FAMILY. The largest group north of Mexico.

ATHAPASCAN FAMILY. Divided into three groups: Northern, Pacific, and Southern.

ATTACAPAN FAMILY. A group of which there is little known, located on the Gulf of Mexico.

BEOTHUKAN FAMILY. A small group located in Newfoundland.

CADDOAN FAMILY. Divided into three groups: Northern, Middle, and Southern, located in the middle west.

CHIMAKUAN FAMILY. Originally one of the largest and most powerful tribes of the Northwest Coast in the neighborhood of Puget Sound. In 1884, Myron Eells reported about twenty survivors living near Port Townsend, Washington.

CHIMARIKAN FAMILY. A small group in California, now nearly extinct.

CHIMMESYAN FAMILY. Located on the Northwest Coast.

CHINOOKAN FAMILY. A small group on the Northwest Coast.

CHITIMACHAN FAMILY. A group now nearly extinct, located in Louisiana.

CHUMASHAN FAMILY. The few survivors of this group are located on the coast of southern California.

COAHUILTECAN FAMILY. A Mexican group now practically extinct.

COPEHAN FAMILY. Located in California.

COSTANOAN FAMILY. The survivors of this group numbered about thirty individuals in 1888, and were located near the towns of Santa Cruz and Monterey in California.

[1] Compiled from J. W. Powell's paper on Indian Linguistic Families of America North of Mexico. In Seventh Annual Report of the Bureau of Ethnology, 1885-86. Washington, 1891.

ESKIMAUAN FAMILY. The coast of Greenland and the north coa of the Dominion of Canada.

ESSELENIAN FAMILY. A small group on the coast of southe California.

IROQUOIAN FAMILY. Originally settled in three distinct region the larger group occupying the territory along the S Lawrence, Lake Erie, and Lake Ontario; two smaller grou in the south, Virginia, North and South Carolina, ar Tennessee.

KALAPOOIAN FAMILY. Originally located in Oregon.

KARANKAWAN FAMILY. Originally located in Texas, now extinc

KERESAN FAMILY. Located in New Mexico.

KIOWAN FAMILY. Indian Territory reservation.

KITUNAHAN FAMILY. Located in British Columbia.

KOLUSCHAN FAMILY. Northwest Coast.

KULANAPAN FAMILY. A small group located on the coast California.

KUSAN FAMILY. A small group originally located in Oregon.

LUTUAMIAN FAMILY. Located in Oregon.

MARIPOSAN FAMILY. Located in California.

MOQUELUMNAN FAMILY. A small group in southern California.

MUSKHOGEAN FAMILY. Located in the southern states borderin the Gulf of Mexico.

NATCHESAN FAMILY. A small group located in Mississippi ar Louisiana.

PALAIHNIHAN FAMILY. Located in California.

PIMAN FAMILY. Located in northwestern Mexico and Arizona.

PUJUNAN FAMILY. Located in California.

QUORATEAN FAMILY. Located in California.

SALINAN FAMILY. Located in California.

SALISHAN FAMILY. Northwest Coast.

SASTEAN (SHASTAN) FAMILY. Located in northern California ar Oregon.

SHAHAPTIAN FAMILY. Located in Washington and its borderin states.

SHOSHONEAN FAMILY. An important group occupying a larg area in the southwest.

SIOUAN FAMILY. One of the important groups occupying a larg territory in the middle west with a small division farthe east near the Atlantic seaboard.

SKITTAGETAN FAMILY. Queen Charlotte Islands.

TAKILMAN FAMILY. A small group that numbered but twenty seven survivors in 1884 when they were resident on th Siletz Reservation, Oregon.

TANOAN FAMILY. Three scattered groups located in the southwest in the Athapascan territory.

TIMUQUANAN FAMILY. Located in Florida.

TONIKAN FAMILY. The few survivors of this group are located in Louisiana.

TONKAWAN FAMILY. Located in Texas.

UCHEAN FAMILY. Located in Georgia.

WAIILATPUAN FAMILY. The few survivors of this group are scattered among the different reservations of the West.

WAKASHAN FAMILY. Northwest Coast.

WASHOAN FAMILY. Located on the border of northwestern Nevada and California.

WEITSPEKAN FAMILY. A small group on the coast of California.

WISHOSKAN (WISHOKAN) FAMILY. A small group originally located on the coast of California.

YAKONAN FAMILY. A small group on the coast of Oregon.

YANAN FAMILY. A small group in northern California.

YUKIAN FAMILY. Located in California.

YUMAN FAMILY. Located in Mexico and Lower California.

ZUNIAN FAMILY. Located in western New Mexico.

NOTES

THE POTLATCH OR DISTRIBUTION OF PROPERTY[1]

"The distribution of property, or *potlatch*, as it is called in the Chinook jargon (Haida, *kie-is-hil*), implying, as it appears at first sight, such entire self-abnegation and disregard of the value of slowly accumulated wealth, requires some explanation. The custom thus named is very widely spread, extending not only to all the coast tribes of British Columbia and its adjacent islands, but also to the native inhabitants of the interior of the province, of entirely different stocks. I have been able to ascertain more about this custom among the Haidas than elsewhere. Whether in all the other tribes it is so perfectly systematized, or carried out precisely in the same way, it is impossible at present to tell, but among the inhabitants of at least the whole northern part of the coast the usage appears to vary very little.

"The potlatch, besides being a means of combining labor for an industrial 'bee' for purposes in which individual effort is insufficient, is also a method of acquiring influence in the tribe, and in some cases, as we have seen, of attaining even to the chieftaincy. The more frequently and liberally an individual thus distributes property the more important he becomes in the eyes of his tribe, and the more is owing to him when some other member performs the same ceremony. Only in certain special circumstances are the blankets—which generally constitute the greater part of the property distributed—torn into shreds and destroyed. In most cases it is known long beforehand that a certain man is about to make a distribution, for the purpose of raising a house, cutting out and erecting a new carved post, or other exertion. Some months previously, among the Haida, he quietly distributes among his friends

1. Dawson. Report of Progress. Geolog. Survey of Canada, p. 125, 1878–1879. cf also Chapman. Notes on the Tinneh Tribe of Anvik, Alaska. In Congrès Internat. des Américanistes 15, vol. 2, 1907.

and the principal members of the tribe his property, be it in blankets or money. The mode of distribution and value of property given to each person is thoroughly systematized, and all the members of the tribe know beforehand how many blankets go to each. A short time before the ceremony all this property is returned with interest; a man who has received four blankets, giving back six, or some larger number in something like this ratio. This retention of a certain amount of the property and its return with increase, appear to be looked upon as an honor by those to whom it is given out. The members of the tribe are then called together for a certain date, and at the same time parties from other, and perhaps distant, villages are invited. The work in hand is accomplished, the man for whom it is done making feasts of the best he has for his guests, and the toil being varied by dancing and gambling with the gaming-sticks, which occupy all the time not more profitably employed. The work finished, the distribution takes place, and shortly afterwards all disperse.

"It is usual to make a potlatch on the occasion of tattooing a child, and at other stages in its advance toward manhood. When it is desired to show utter disregard of worldly wealth, the blankets are torn into strips and scattered among the crowd, and money is also strewn broadcast. This procedure is sometimes followed in competitions for the chieftaincy, already referred to. A similar practice is also a method of showing rage and grief. At Masset, lately, it became known to a father that a young man had made improper advances to his daughter. The father immediately, in great anger, tore up twenty blankets, which not only served as an outlet for his feelings, but placed the young man under the necessity of destroying a similar number of blankets; and in this case, not being possessed of sufficient property, those of the young man's totem-clan had to furnish by subscription the requisite number, or leave upon themselves a lasting disgrace. The feelings of the subscribers were not naturally of the kindest toward the young man, but they did not in this case turn him out of the tribe, as they had a right to do *after* having atoned for his fault.

"Among the Tshimsians an ordinary man confines his potlatch or *yak* to those of his own village, while a chief generally, or often, invites people from other villages also. The chief may be assisted in giving potlatches by his people. Should he desire help of this kind, he gives a feast with many different dishes, to which all are invited. The next day a drum is beaten for him by his jester in a peculiar manner, when all who have been at the feast come together with gifts, which are afterwards, with those belonging to the chief himself, given away.

"The dance is closely connected with the potlatch ceremonies, but also takes place in some instances without the occasion of a giving away of property. In most of the dances the Tshimsian language is used in the song, which would appear to indicate that the ceremonial has been borrowed from these people. Notwithstanding the old-time hostility of the Haida and Tshimsians, the former profess a great liking for the Tshimsian language, and many of them speak it fluently.

"Six kinds of dancing ceremonies are distinguished, and are designated in the Skidegate dialect by the following names: (1) *Ska-ga*, (2) *Ska-dul*, (3) *Kwai-o-guns-o-lung*, (4) *Ka-ta-ka-gun*, (5) *Ska-rut*, (6) *Hi-atl*. Of these I have only witnessed No. 3, the description of the others being at second hand.

"(1). *Skā-ga* is performed on occasions of joy, as when friendly Indians arrive at a village in their canoes, and it is desired to manifest pleasure. A chief performs this dance. He takes his stand in the house at the side of the central fire furthest from the door. He should wear over his shoulders one of the *na-xin* or Tshimsian blankets, made of fine cedar bark and the wool of the mountain goat. He wears, besides, the best clothes he may happen to have, and on his head an ornament made of the stout bristles from the whiskers of the sea lion. These are set upright in a circle, and between them feather-down is heaped, which as he moves is scattered on all sides, filling the air and covering the spectators. He dances in the usual slouching way common among the Indians, bending his knees, but not lifting his feet far from the ground. The people, sitting around in the firelight, all sing, and the drum is continually beaten. This dance may last half an hour or an hour.

"(2). The dance distinguished as *Ska-dul* appears to be merely the beginning of that known as (3) *Kwai-o-guns-o-lung*. Any man who knows the mode of singing starts the dance alone, when it is called *Ska-dul;* soon others join in, and it becomes No. 3. This is performed by no particular number of people, the more the better, and occurs only when a man desires shortly to make a house. The man himself does not dance, nor does any giving away of property take place. The women occupy a prominent place in this dance, being carefully dressed with the little marks and *na-xin* or cloaks previously described. One man performs on a drum or tambourine to which all sing, or grunt in time, shuffling about with a jerky motion as they do so. There is a master of ceremonies who leads off the chorus. Rattles are freely used. The song is in praise of the man who intends to build, and also of the dancers. It eulogizes his strength, riches, and so on, and is in the Tshimsian language.

"(4.) *Ka-ta-ka-gun*. This is performed by the male relatives

of the man's wife and takes place when a house has been finished, the owner at the same time making a distribution of property. The dancers are attired in their best, ornamented, and with faces painted, but no birds' down is used. It is performed in the newly finished house, and may occupy half an hour or an hour. The man who makes the distribution does not dance. All sing in the Tshimsian language.

(5.) "*Ska-rut.* One man performs this dance, but is generally or always paid to do the duty for the person more immediately concerned. It takes place some days before a distribution of property, on the occasion of such an event as the tattooing of a child or death of a relative or friend. The dance is performed by a single man, naked with the exception of his breech-cloth. In the first part of the dance, which appears to be intended to simulate a sort of possession or frenzy, one of the grotesque wooden masks is worn, and this is the only dance in which they are used. The wearing of the mask is not, however, absolutely necessary, but is a matter of choice with the performer. Getting heated in the dance, he throws the mask away, snatches up the first dog he can find, kills him, and tearing pieces of his flesh, eats them. This dance is not performed in the house as the others are, but at large through the village. The usual present tariff for the performance of the ceremony is about ten blankets. On enquiring what the feelings of the man might be whose dog was devoured, I found that afterwards the dog is appraised and paid for to the satisfaction of all parties. This is characteristic of the manner in which, among the Haida themselves, the principle of nothing for nothing is strictly carried out.

"(6.) *Hi-atl.* This dance is very frequently indulged in, on the occasion of any joyful event, as the arrival of visitors, etc. It is performed by several or many men, who wear feathers in their hair and paint their faces. The Haida language is used in the song. No distribution of property happens, except in the case of the dance being to denote the conclusion of mourning for a dead friend. In this instance a potlatch occurs by the former mourner, who invites his friends together to dance with him."

THE MUSICAL BOW IN AMERICA

The presence of the musical bow in America has given rise to much discussion as to whether or not it may be considered indigenous. While the theory of independent origin of certain types in widely separated localities is quite as possible in the field of primitive culture as in that of art,[1] in the case of the musical bow the theory

1. Take, for instance, the metal-workers of the sixteenth century when

of transmission is borne out by the facts that thus far pre-Columbian records have failed to produce any suggestion of the use of stringed instruments by the aborigines; that in those parts of South America where slave traffic flourished in the early days, various types of African instruments are still found; and that in many of the negro melodies there is a strongly marked African element. In nearly every instance the bow, as it is found in America, corresponds to some African type; this is especially true of the form found among the Maya of Yucatan in which the buccal cavity of the player acts as a resonator, and again, in that of the Huichol Indians of Mexico, where the bow is supplemented by a gourd resonator. Other instances that show foreign contact are the *ha-hai-shim* of the Yokaia Indians of California that is distinctly Polynesian in character, being almost identical with the *ukeke* of Hawaii, and the *thlin-thlin-no-me* of the Pueblo Indians of New Mexico; here the introduction of a string-peg shows a higher development of culture that at once suggests contact with European forms, although again we find a similar type in Siam[1] which, however, has not only a tuning peg, but as well the gourd resonator.

In discussing this subject the late Dr. Otis T. Mason[2] writing in the American Anthropologist, expressed himself in the following terms: "After looking over the musical collection of the U. S. National Museum and such literature as has been collected by the Bureau of American Anthropology, I have come to the conclusion that stringed musical instruments were not known by any of the aborigines of the Western Hemisphere before Columbus." E. H. Hawley, of the same institution, after years of research work along these lines fails to find sufficient proof to convince him otherwise; also Charles W. Mead[3] of the American Museum of Natural History, New York, in his book, The Musical Instruments of the Incas, referring to some of the early Spanish writers, states: "Garcilasso de la Vega, in his chapter entitled 'Of the Geometry, Geography, Arithmetick, and Musick known to the Indians' gives no account of any stringed instrument. There is scarcely a chapter in the 'Cronica del Peru' of Cieza de Leon that does not contain mention of some musical instrument, but we find no hint of this class. The

Miyochin, Japan's greatest artist in metal, and Benvenuto Cellini, each working independently in widely separated localities, produced like results; or again, the Japanese woodcuts of the eighteenth century that show the same delicacy of technique and treatment of design as those of the French artists of the same period.

1. Balfour. History of the Musical Bow, p. 66.

2. American Anthropologist, vol. 10, p. 380, 1897.

3. The Musical Instruments of the Incas, p. 29, 1903.

Peruvians themselves, as we have seen, left behind them many of their instruments and numerous representations of them on their pottery vessels and metal ornaments; but among them all, not one belonging to the lyre type can be found." Frederick Starr[1] in his Notes upon the Ethnology of Southern Mexico, describes the Mexican bow which, he is of the opinion, was not in use among the natives prior to the invasion of the Spaniards. He refers to it as follows: "On the slopes of the Malintzi the shepherds use a stringed instrument, the *camalpa*. It is the musical bow which has been so interestingly studied by Balfour.[2] It consists here of a simple cane some three or four feet long: a string is fastened to one end of this and is rendered taut by a tightening peg at the other. It is played by vibrating the cord and manipulating with the mouth. Señor Quechol, who showed me the mode of use, believes from the name that the instrument is post-Conquest in Mexico. His etymology of the word is *cam*, mouth; *alpa*, corruption of the Spanish *arpa* (*harpa*)—a mouth harp."

The English authority, Henry Balfour,[3] in his work on the history of the musical bow, expresses his opinion on the subject, as follows: "In reviewing the various types of musical bows to be found in the New World, I must say that I feel that the case of the claims of this instrument to be regarded as indigenous (pre-Columbian) in the Americas can only as yet be dismissed with a verdict of not proven."

On the other hand, the theory of independent origin is upheld by Carl Lumholtz,[4] who bases his claims upon the important position held by the musical bow in the ceremonial of several of the Indian tribes. Describing its use by a shaman of one of these tribes, he says: "In front of the shaman was the musical instrument on which he had been playing. This was a large, round gourd, on top of which a bow of unusual size was placed with its back down. The shaman's right foot rested on a board which holds the bow in place on the gourd. The bow being made taut, the shaman beats the string with two sticks in a short rhythmical measure of one long and two short beats. . . . In the religion of the Maidu[5] tribe also this bow plays an important part, and much secrecy is connected with it. . . The Cora[6] always glue the musical bow to the gourd,

1. Reprinted from vol. VIII, Proceedings of Davenport Academy of Natural Sciences, 1900.

2. History of the Musical Bow, p. 46.

3. History of the Musical Bow, p. 50.

4. Unknown Mexico, vol. I, pp. 475, 476, 523. 1902.

5. Maidu. Tribe of the Pujunan family, Lower California.

6. Preuss in an article entitled Sanger Ascension Diaz, den Bogen Schla-

uniting the two parts to form one instrument. The gourd is placed over a small excavation in the ground to increase its resonance. This is the musical bow of America, which is here met for the first time. It is intimately connected with the religious rites of this tribe (Aztecs), as well as with those of the Cora and Huichol,[1] the latter playing it with two arrows. The assertion has been made that the musical bow is not indigenous to the Western Hemisphere, but was introduced by African slaves. Without placing undue importance on the fact that negroes are very rarely, if at all, found in the northwestern part of Mexico, it seems entirely beyond the range of possibility that a foreign implement could have become of such paramount importance in the religious system of several tribes."

The same author elsewhere[2] describes the musical bow of the Huichol (Piman) Indians as the same as that in use among the Cora (Piman) and very similar to that of the southern Tepehuane and the few neighboring Aztecs. He says: "Its necessary accessory is a resonator in the form of a large gourd, on top of which it is placed. The gourd selected for the purpose is round, and compressed from the end. It rests on the ground with the neck turned upwards. A large circular hole is carved out of the lower end, and a smaller hole is to be found in the side. The bow, having been made taut, is placed on the gourd with its back down, the middle part resting on it. The shaman, who when playing is seated on a stool or kind of bench, keeps the bow steady by a cross-piece of flat wood, which he presses with one foot. This piece of wood, which is about 70 cm. long, 3 cm. wide, and 2 cm. thick, has a transverse slit at one end, to fit the back of the bow over which it is placed. This tends to keep the bow more steady than the sandaled foot could do, the use of a stick also precluding any interference with the resonance of the gourd. This custom prevails among the southern Tepehuane Indians and the neighboring Aztecs. The Cora, however, glue the back of the bow solidly to the gourd for the occasion, thus making one instrument of them. They also place the gourd over a small excavation in the ground in order to increase its resonance. It is played with two thin, round sticks of tough, heavy wood, each about 40 cm. long. The musical bow has the same name as the shooting bow, and is called by the southern Tepehuanes and their neighbors the Aztecs, *tawito'l*. By the Cora the name *tunamo* is applied. The Huichols call it *topi*. The gourd and the playing

gend (in Globus, vol. 90, p. 71, 1906) gives an illustration of a native Cora playing upon the musical bow as described above.

1. Cora and Huichol. Tribes of the Piman family, Lower California.

2. Am. Museum of Natural History. Memoir, vol. 3, p. 206 ff. 1900.

sticks, as well as the stick on which the foot is put, have their special native names. In the Nahuatl (Mexicano) of that region the playing sticks are called *otsu'l*, and the stick with which the player keeps the bow from moving is called *kwawite*. Among all these tribes, with the exception of the Huichol, it is used at religious ceremonies where it takes the place of the drum of the latter tribe. These facts settle beyond doubt the question recently raised, whether or not there is a musical bow indigenous to America. To deny its existence among the Cora and their neighbors would be equivalent to doubting the originality of the Huichol drum."

At Azqueltan, a small pueblo in central Mexico, the Tepecano, a subtribe of the Tepehuane (Piman stock) Indians, still practise an ancient ceremonial in which the musical bow plays an important part. This tribe, aboriginally clannish, remained isolated for many years; but during the past ten years the character of the settlement shows a marked change; Spanish has almost entirely replaced the Indian tongue and many of the tribal customs have been abandoned. Scattered survivors of the older generation, however, still cling to the ancient religious rites; in the Fiesta of the Pinole witnessed in January, 1912, there were but four elderly men and two middle-aged men who participated in the ceremony. The musical bow used in this rite is the same as that of the Huichol; it rests on an inverted gourd that covers a little depression in the earth and is held in place by the left foot of the Cantador or chief singer, who with his right hand strikes the string with two small sticks producing a clear note. The songs lasted from eight in the evening until daybreak, the Cantador, who is the highest functionary of the Tepehuane religion, singing alone, accompanied only by the monotonous note of the musical bow.[1]

The use of the bow in tribal ceremonial is also mentioned by Roland B. Dixon[2] who states that while the northeastern Maidu (Pujunan) use it merely as an amusement, with the southwestern division it is considered more or less sacred. He writes as follows: "The musical bow seems to have been known to all the Maidu. The northeastern Maidu used the regular hunting bow for the purpose and played upon it merely as an amusement, there being apparently nothing that was sacred or ceremonial about it. The northwestern Maidu, however, at least in the foot-hills, seem to have considered the faint sounds produced as specially suitable for individual converse with the spirits; therefore, the use of the musical bow is restricted to shamans. The bow here, moreover, appears

1. cf. The Fiesta of the Pinole at Azqueltan. University Museum Journal, vol. 3, p. 44. Phila. 1912.

2. Amer. Museum of Natural History Bulletin, vol. XVII, p. 222, 1905–1907.

to have been especially made for the purpose, the regular hunting bow not being used. The bow is about a meter and a third long, thus exceeding the regular bow somewhat in its dimensions. When made it was rubbed, it is claimed, with human blood. In playing the bow it is held in the left hand, one end of the bow being placed in the mouth, the other end extended horizontally toward the left. The string of the bow is then tapped gently with a small twig, held in the right hand, and the notes varied by opening or closing the mouth to a greater or less degree, thus increasing or lessening the size of the resonance chamber."

In describing the music of the Mayas[1] and Lacandones, Tozzer[2] apparently considers the musical bow used by that tribe to be of native origin. He says: "In addition to the many modern musical instruments which have been brought into the country, the Mayas have a few which are clearly a survival of the time when music played a part in their ceremonies. One example of the musical bow was observed. This was made of a flexible rod and the sinewy fiber of a tree as the string. The cord is made to vibrate between the lips in the manner of the Jews' harp as it is struck with a stick. Distinct musical sounds are thus produced." This is the type referred to by M. H. Saville[3] as the *hool*, a primitive Maya instrument, made by stretching a piece of rope-like vine, called *obil*, between the ends of a pliable piece of wood. It was played as described by Dixon, and was used, as stated by Saville, for the *jardanas* or native dances and cast aside after use.

The presence of the musical bow in America is recorded by Balfour in the following localities:

West Indies. The *benta* of the negro slaves of the West Indies. A simple bow with a striker called *warimba*. Described by J. G. Stedman in his Narrative of a Five Years' Expedition against the Revolted Negroes of Surinam, vol 2, pl. fig. 12. 1813.

Bahia, Brazil. A simple bow with a gourd resonator attached to the center by a small string loop which also braces the bowstring to the bow. The string is struck with a small stick. A small wicker rattle hung on the fingers of the left hand furnished a rattling accompaniment. In the collection of the British Museum.

Lencas, Honduras. The *bumbum*, described by Prof. O. T. Mason. Similar to the bow from Bahia. The bow is sometimes

1. A linguistic family of American Indians located in southeastern Mexico and Central America.

2. A Comparative Study of the Mayas and the Lacandones, p. 73 ff. 1907.

3. American Anthropologist, vol. X, p. 272, 1897.

placed on an additional half-section of a gourd placed on the ground, to increase the resonance.

Mosquitia. The *carimba*. A heavy bow with a metal string and a gourd resonator similar to the bows of Bahia and Honduras.

San Salvador. The *carimba*. A bow similar to that from Mosquitia, described by Dr. S. Habel in Smithsonian Contributions to Knowledge, vol. 22, p. 31. 1878.

Guatemala. The *apachè* or *marimbachi*, also *caramba*. A light wooden bow, strung with a thin creeper or a string, with a bracing loop near the middle, but no gourd resonator. The bow is placed against the mouth and struck with a small stick, described by Dr. Carl Sapper in Das nordliche Mittel-Amerika, p. 312. Brunswick, 1897.

Nicaragua. The *quijonga*. Similar to the bows already described, having a bracing loop, a resonator, and the tone produced by striking the string. Described by D. G. Brinton in The Comedy Ballet of Gueguence, p. 36. Philadelphia, 1883. The same instrument is also described by J. F. Ferraz in Nahuatlismos de Costa Rica, p. 106. 1892.

Yucatan. The *hool*, described by M. H. Saville as a primitive Maya instrument in which the mouth of the player serves as resonator. The tone is produced by striking the string. American Anthropologist, August, 1897. For Mr. Saville's reference to the appearance of the musical bow in the Codex Becker, see note 4, p. 189.

Mexico. (Modern). A bow with a tuning peg, obtained by O. H. Howarth in Patzcuaro, Michoacan. Oxford University Museum. Similar to the harpa from the Rio Verde district in the Peabody Museum, Cambridge, Mass. (see No. 1740), the *mawahellis* from California, and the *thlin-thlin-no-me* from New Mexico in the U. S. Nat. Museum Col., Wash., D. C.

Central Brazil. The *umcunga*, a bow of rattan that is held against the throat or vocal cords and struck with a short stick.

Patagonia. The *koh'lo* or *colo*. A small bow played with a bone plectrum described by Musters.[1]

In addition to Balfour's notes on the Patagonian bow may be mentioned an article by Lehmann-Nitsche[2] in which he describes the native method of playing the *koolo*.[3] The performer sits upon

1. At Home with the Patagonians, p. 81, 1873, and fig. 8, p. 177. Dr. H. Ten Kate in Amer. Anthropol., vol. 2, p. 93, 1898.

2. Lehmann-Nitsche, Robert. Patagonische Gesänge und Musikbogen. In Anthropos, vol. 3, p. 916, 1908.

3. There are two examples of the *koolo* in the Berliner Museum für Volkerkunde Collection, Nos. v.b. 96; v.b. 97.

his crossed legs, holding the bow in his left hand with one end pressed against his closed front teeth; in his right hand he holds a slightly polished bone, pierced with four or five holes which, after moistening with saliva, he gently rubs along the inner side of the string, the hollow bone tending to increase the volume of the tone. By raising the three middle fingers and pressing down on the string, "four different, tender, humming tones" may be produced when the bone is drawn across the strings. The native name of the whole instrument is *kolo;* the bow, *tkcha;* the strings *t'ar;* the bone *t'kchoo.* The general term for bow is *kcha* and for knocker, *kchoo.* The same author quotes Spegazzini's[1] description of the *kooll(a)*: "This musical instrument is one of the simplest and most remarkable I have seen. It consists of two separate bows; in the first place a little bow made of hard wood strung with a bunch of horsehair, and in the second place a hollow bone, of an ostrich, with four or five holes on one side. The instrument is played in this way: it is held firmly by one end in the left hand and the other end is pressed against the front teeth while with the right hand the ostrich bone is slid up and down over the strings."

D'Orbigny[2] writing in 1839 of the Araucanians, mentions the use of a five-holed flute which produced a monotonous nasal tone; also a bow strung with horsehair which they rubbed with a large bone of a bird, or with the same bone blew into a gourd.[3]

Lehmann-Nitsche describes still another form of bow mentioned by Guinnard,[4] who refers to it as a "violin" composed of two horse ribs formed like violin bows and strung with tightly stretched horsehair strings which were moistened with saliva when in use. In playing this instrument the performer rubs the two bows one against the other. They serve indifferently as they happen to be used for "violin" or for "bow." The one that serves as the instrument is placed between the closed teeth and held horizontally in the left hand of the player, who moves the bow quickly to and fro and obtains an indistinct note that is modulated by the unemployed fingers of the left hand. A bow of this type, differing only in that the bow placed in the mouth was made from the rib of a cow while the other was of wood, was shown in Genoa at the time of the four-hundredth anniversary of the discovery of America and

1. Spegazzini. Costumbres de los Patagones. Anales de la Sociedad Cientifica Argentina, vol. 17, 1884, pp. 229, 234, 236.

2. D'Orbigny. Voyage dans l'Amérique meridionale, vol. 2, pp. 88–89. Quoted by Lehmann-Nitsche in Anthropos, vol. 3, 1908, pp. 934–935.

3. cf. Note to No. 2119 p. 236.

4. Guinnard. A Three Years' Slavery Among the Patagonians. London, 1871.

described by Hamy,[1] who gives the native name as *quinquer caline*. These were doubtless of Araucanian origin. Guevara[2] mentions the same bows made of willow and strung with horsehair, the native name differing slightly, i.e., *quinque cahue*.

In the opinion of Lehmann-Nitsche, these complex forms found in Patagonia are probably an original combination of old European instruments, i.e., the large bow for the bass or cello combined with some kind of a flute,[3] especially as the Tehulches try to blow upon the bone with which they rub the string—and the holes found in the decorated specimens were originally not purely ornamental as they are now. The only solution offered by this writer as to the origin of this type is that the bow may have been imported by African slaves who were brought there after the Spanish Conquest, and, after the removal of the African influence, the bow was developed and combined by the natives in different ways, resulting in a hybrid form. The use of a bone in connection with the bow appears again in the *ba-hai-shim* of the Yokaia Indians of California who use a bone plectrum to strike the string of the bow that, like the bow of the Araucanians, is held between the teeth. In this instance, however, the bone in no way resembles a flute.

As to when or where the musical bow first made its appearance on this continent, history gives us no clue other than that of transmission from Africa through the West Indian slave trade; nor does archaeological research afford the necessary proof of its use among the aborigines. Recent excavations as well as those of the past have produced only objects of pottery and bronze, with occasional fragments of weaving, impossible to date, but which seem to correspond to the predynastic period of Egyptian art (prior to 3400 B.C.). Such fragments of stringed instruments as have survived in Egypt date from about 1600 B.C., although the use of harps as early as 2700 is recorded in a relief of the Fifth Dynasty; but neither in Mexico nor in South America have any traces of the string form been found either in carvings or among the funerary objects exhumed. The same is also true with the Indian mounds north of Mexico, those of the middle west and California producing only

1. Hamy. Étude sur les collections Américaines réunies à Gênes à l'occasion du IVe centenaire de la Découverte de l'Amérique. In Journal de la Société des Américanistes de Paris, vol. I, 1895–96.

2. Guevara. Historia de la civilizacion de Araucania. In Anales de la Universidad de Chile, vol. 104, p. 502. 1899.

3. The instrument thus developed, combining as it does a flute and a stringed instrument, suggests a primitive form of the combination found in Provence, the *chirula* and the *tambourin à cordes*, and as well the Elizabethan pipe and tabor.

instruments of bone or pottery. The appearance, therefore, of the musical bow as an adjunct to tribal ceremonial can only be regarded as a later stage of primitive culture evolved either by the natives themselves or acquired by foreign contact, a question, as Lehmann-Nitsche has well said, regarding the solution of which literature leaves us still perplexed.

BIBLIOGRAPHY OF THE MUSICAL BOW

BALFOUR, HENRY. *The Natural History of the Musical Bow.* Oxford, 1899.

BRINTON, D. G. *The Comedy Ballet of Gueguence.* Philadelphia, 1883.

DIXON, ROLAND B. *The Northern Maidu.* (In Bulletin of the American Museum of Natural History, vol. 17, pt. 3. New York, 1905.

GUEVARA. *Historia de la Civilizacion de Araucania.* (In Anales de la Universidad de Chile, vol. 104. 1899.)

GUINNARD, A. *Three Years' Slavery among the Patagonians.* London, 1871.

HABEL, S. *The Sculptures of Santa Lucia. Consumalwhuapa in Guatemala.* (In Smithsonian Contributions to Knowledge, vol 22, p. 31. Washington, 1878.)

HAMY, E. T. *Étude sur les Collections Américaines réunies à Gênes a l'occasion du IV^e Centenaire de la Dècouverte de l'Amérique.* (In Journal de la Société des Américanistes de Paris, 1895–1896.)

LEHMANN-NITSCHE, ROBERT. *Patagonische Gesänge und Musikbogen.* (In Anthropos, vol. 3. 1908.)

MOSTA. *Mis esploraciones y descubrimientos en la Patagonia 1877–1880.* Buenos Aires, 1880. *Viaje al pais de los Tehuelches.* Buenos Aires, 1879. *Una raza que desaparece Los Indios Tehuelches.* Buenos Aires, 1894.

MASON, O. T. *Music in Honduras.* (In American Anthropologist, vol. 2, 1889.) *Geographical Distribution of the Musical Bow.* (In American Anthropologist, vol. 10, 1897.)

MEDINA, JOSÉ TORIBIO. *Los Aborijenes de Chile.* Santiago, 1882.

MORENO. *Viaje a la Patagonia Austral, emprendido bajo los auspicios del Gobierno Nacional 1876–1877.* vol. 1. Buenos Aires, 1879.

MUSTERS, G. C. *At Home with the Patagonians, 1873. Unter den Patagoniern.* Jena, 1873.

ORBIGNY, ALCIDE D', *Voyage dans l'Amérique meridionale.* Paris. Strasbourg, 1839–43.

PARRY, E. W. *The Home of the Hulero.* (In Outing Magazine, Feb. 1894.)

RONCAGLI, GIOVANNI. *Da Punta Arenas a Santa Cruz.* (In Bollettino della Societa Geografica Italiana. Ser. II, vol. 9, 1884.)

SAPPER, CARL. *Das Nordliche Mittel-Amerika.* Brunswick, 1897.

SAVILLE, M. H. *A Primitive Maya Musical Instrument.* (In American Anthropologist, vol. 10, 1897). *The Musical Bow in Ancient Mexico.* (In American Anthropologist, vol. 11, 1898.)

SELER, ED. *Mittelamerikanische Musikinstrumente.* (In Globus, vol. 76, No. 7, 1899.)

STEDMAN, J. G. *Narrative of a Five Years' Expedition against the Revolted Negroes of Surinam.* 1813.

SPEGAZZINI. *Costumbres de los Patagones.* (In Anales de la Sociedad Cientifica Argentina, vol. 17, 1884.)

TEN KATE, H. *Geographical Distribution of the Musical Bow.* (In American Anthropologist, vol. 11, 1898.)

WALLASCHEK, RICHARD. *Primitive Music.* London and New York, 1893.

ANONYMOUS. *The Fiesta of the Pinole at Azqueltan.* (In The Museum Journal of the University of Pennsylvania, vol. 3, Philadelphia, 1912.)

INDIAN FLAGEOLETS

This form of musical instrument is found among several tribes especially on both sides of the Rocky Mountains. It is made of a round stick of soft wood, generally cedar, which is split longitudinally. The inside of each piece is hollowed so that when the are again united two chambers are formed, separated by a diaphragm or "languid" half an inch thick. The chamber is closed, excepting a small air passage, less than a quarter of an inch in diameter, left in the inner end. On the face or outer section of the instrument is cut a slot about one and a half inches long and one quarter of an inch wide. This furnishes a rectangular opening into both the inner and the outer chamber. The diaphragm has a shallow channel cut on its upper edge and the face of the upper half of the instrument, for a short distance above and below the slot, is made flat. The outer tube or chamber is open at its further end and on the face are bored six finger-holes. The two sections are tied together with thongs and made air-tight with gum. A cap of cedar is fitted on over the diaphragm and in its outer end is cut a vertical notch. To form the lip of the whistle a piece of metal is bent around the

instrument, its inner edge made sharp, and it is made so as to close the lower portion of the rectangular slot to within about a quarter of an inch of the lower face of the diaphragm. This is also cemented and lashed with thong. Over this the cap is fitted so that the bottom of the notch is nearly in line with the lower face of the diaphragm, and the space between it and the upper edge of the diaphragm forms an air channel which directs the wind against the sharp edge of the metal lip. In other flageolets the sheet metal whose thickness forms the depth of the air channel is not used, but the air channel is cut out in the wood of the flageolet.

—E. H. Hawley, U. S. Nat. Museum.

THE GHOST DANCE

This religious ceremony, associated with the Messiah doctrine, originated among the Paviotso (Shoshonean) in Nevada about 1888. Its prophet was a young Paiute Indian whose reputation was first established as a medicine man. In a delirium of fever he believed himself transported to the spirit world where he received a revelation from the God of the Indians to the effect that a new dispensation was close at hand by which the Indians would be restored to their inheritance. James Mooney,[1] who describes the dance, states that the men and women with joined hands moved slowly around in a circle facing toward the center, keeping time to songs that were sung without any accompaniment. Hypnotic trances were a common feature of the ceremonial. . . . The doctrine has now faded out and the dance exists only as an occasional social function.

Alfred L. Kroeber,[2] describing the accessories of the Ghost Dance formerly practised among the Arapaho, mentions among other things certain musical instruments, a drum and whistles, which he describes as follows: The hand drum, about 18 inches in diameter, "consists of a circular piece of skin stretched over one edge of a hoop of wood, and brought around over its other edge. The hoop is pierced with holes an inch or more apart; and a thong passing through these and the skin on the inside and outside of the hoop stretches the drum. From four opposite points of the hoop, on the back or bottom, thongs extend toward the center, where they are fastened together and wrapped with cloth, to afford a

1. Bur. Amer. Ethnol. Bul. 30, part I, p. 491; Ghost Dance Religion, Bur. of Ethnol. 14th An. Rept. pt. II, 1892–93, p. 653. Wash. 1896.

2. The Arapaho. Amer. Museum of Nat. Hist. Bul. XVIII, pt. 4, pp. 149 ff.

handle. This bottom, or inside drum, is said to resemble the sacred wheel, because this is also crossed by two bisecting strings. The inside of the hoop itself is painted dark green. The under side of the skin is painted red. The inside of the drum is called *haa'tetc* (the ocean). The upper side . . . is also painted red and is said to represent the sun. A large black figure denotes a buffalo-horn; two smaller black marks about the size of fingers, represent man and woman." There is also a larger drum, suspended from four forked sticks, used in certain parts of the ceremony. The drum-sticks sometimes have padded heads decorated in color, but as a rule they are simply a piece of wood occasionally wound with cloth at one end.

"Wooden whistles were made in connection with the Ghost and Crow Dance. The whistles typical of the older tribal ceremonies are of bone, often ornamented with a partial wrapping of blue beads, and usually they have no feathers, other than a single projecting plume, attached to them. The Ghost Dance whistles are of wood, considerably larger, painted, often carved in relief or outline, and ornamented with pendant feathers at the end." One carved whistle illustrated by Kroeber (p. 351), is painted and decorated with feathers. "The carving consists of a cross, which is as usual the morning star, a vertical line from it representing its course as it rises; above it, the figure of a person with a red upright head-feather, representing the sun; above this, the thunder-bird. A straight line issuing from its mouth represents ra n; wavy lines are lightning. Of the colors painted on the whistle, red is the blood of humanity, blue the sky, and green the earth. The black and white of the magpie-feathers attached to the whistle represent clouds; and small plumes dyed red, and attached to these feathers represent lightning Of the feathers on the whistle, those of the magpie refer to the thunder-bird, on account of the swift flight of this bird. The use of a primary wing-feather of this bird further refers to the flight of the thunder-bird. The blowing of the whistle when it is used represents thunder.

"Another whistle of wood painted green, is ornamented along the upper side by a straight line which runs the length of the piece, and has been painted red and blue. On the other side of the whistle are four zigzag incised lines. The lines are symbols of roads. Around the end of the whistle is a strip of otter-skin. From this band an eagle-feather (stained reddish at the base and ornamented there with a blue plume), a small barred feather, a few small trimmed iridescent magpie-feathers much worn, a thong ornamented with three small wrappings of red quills, and four thongs each ornamented with quill-work of one color, and tipped at the end with a

eather or plume. Two of these quilled thongs are white, one ellow and one red."

A third form is smaller than the others, free from carving, ainted red, and ornamented with a single large eagle-feather from hich a large section has been roughly cut off.

THE SUN DANCE

This dance, originally one of the great religious ceremonies of he Plains tribes, was performed by the Arapaho, Cheyenne, Sik-ika, Ponca, and Omaha of Siouan stock; the Pawnee of Caddoan tock; the Kiowa; and the Shoshoni and Ute of Shoshonean stock. Being utterly misinterpreted in official circles it has been for many ears opposed and is now extinct among the Dakota, the Crows, nd the Mandan of the Siouan stock and among the Pawnee and he Kiowa. The ceremony, which abounds in symbolism, is held uring the summer, when the sun is brightest and among the Sioux t is an annual event. It is performed, "in compliance with a vow, enerally made during the winter, but which may be made, however, t other seasons of the year. The vow is in the nature of a pledge, hat the speaker will make provision for the erection of the lodge and for the proper performance of the ceremony if the Man Above will grant him his wish in regard to some particular matter. The occa-sion for such vows differed among the tribes giving the Sun Dance," s in the case of sickness, lunacy, or dreams and formerly when an individual was hard pressed on the warpath.[1]

"In the majority of tribes one of the most common rites of the ublic performance is that of voluntary self-laceration or torture. The two most common forms were (1) to attach the free end of a reata that had been fastened to the center fork of the lodge, to a skewer inserted in the loose skin of the breast, and (2) to drag around inside the camp circle one or more buffalo-skulls by a reata the other end of which was attached to a skewer inserted in the back. In some tribes a small piece of flesh was cut from the arm or shoulder of the dancer and was offered with tobacco seeds at the foot of the center pole. The amount of torture performed seems to have been greatest among the Cheyenne and Mandan. Torture in any form was not tolerated by the Kiowa; indeed, the appearance of blood

1. Dorsey, Geo. A. Bur. Amer. Ethnol. Bul. 30, pt. 2, p. 649 ff.; Field Columbian Museum Pub. 75, Anthrop. Ser. IV. Chicago, 1903; Fletcher. Amer. Ass'n. Adv. of Science, Proc., vol. 31, pp. 580–84, 1882; Pond. Dakota Sun Dance, Col. Minn. His. Soc. II, pp. 234–38; Lynd, in Col. Minn. His. Soc. II, pp. 166-67; Dorsey, J. Owen. A Study of the Siouan Cults. Bur. of Ethnol. 11th An. Rept. Peeso. The Cree Indians. In the Mus. Jour. University of Penna. vol. 3, No. 3, p. 50 ff. 1912.

at any stage of the ceremony was regarded by them as an ill omen, and it is said sometimes to have caused the ceremony to cease.

"A form of sacrifice other than torture, consisting in the offering of the cast-off clothing of children or adults to the lodge on the last day, was practised by several tribes, especially those of Algonquian stock."

The dance is held in a roofless or partially covered enclosure called a "lodge," some 60 or 100 feet in diameter with an opening toward the east, and an altar with its sand mosaic in the west. In this dance, the paraphernalia consists of a buffalo-skull, pipe, prayer sticks, etc., the principal feature being the center pole, topped with the symbolic "nest of the thunder bird," which represents the sun or god,—the "Great Mystery," "Great Medicine," or "Man Above." The musicians, seated about a large drum at the southern side of the entrance, sing the Sun Dance songs to the accompaniment of the bone whistle worn by the dancers. Among the tribes where this dance is still performed it has degenerated into more or less of a commercial or spectacular performance.

The symbolism associated with the rattle and drum used in the Sun Dance is described by J. Owen Dorsey[1] as follows: "The rattle is the same as that of a medicine man; it is scrotum shaped, and had its origin from the Pleiades (the seven brothers and their daughter, Splinter foot Girl), who are supposed to be within the rattle, and who contain all of the ceremonial songs. It is said that when the Man Above was awaiting a selection by the people, Prairie-Chicken offered his body for a rattle. The body is reversed, the head being the handle. His body contains also the Four-Old-Men, Sun and Moon. These birds dance early in the morning, sing songs, and scatter them, as if to dust themselves.

"The large drum used in the rehearsal, and during the singing in the Offering Lodge, is spoken of as water and is said to come from the rain clouds. By another informant it is said the drum is the earth, which is the badger, and the drumstick is the pipe-stem. The earth represents the female element and the pipe-stem the male element; in other words, the connection of the people outside of the Rabbit-pit. The parfleche or rawhide represents the ill luck or famine and follows everything in the ceremony. It is purified over incense and thrown among the Dog-soldiers who beat it with sticks, thus killing it, and so occasioning joy and good feeling among all and a victory for the Lodge-Maker. As it also personifies a distressed person, it is raw, plain, not adorned."

1. Dorsey, J. Owen. The Arapaho Sun Dance; the Ceremony of the Offering Lodge. In Field Columbian Museum Pub. 75, Anthrop. Ser. 4, p. 42. 1903.

THE CROW DANCE

The Arapaho believe that the so-called Omaha dance originated with the Pawnees and the Osages. . . . The Omaha brought the dance to the Sioux. The Sioux brought the dance to the Arapaho and other tribes. They brought it in connection with the *tceäk'can*, a sacred bundle[1] offered to friendly tribes, and which, if refused, would cause defeat in war. The Arapaho had the dance until, at the time of the Ghost Dance, the older limitations as to the kind and color of feathers and the accompanying regulations were given up or modified, and the ceremony was called the "Crow Dance."[2]

The following is an account in part of a Crow-Dance seen in September, 1899, among the southern Arapaho: "The dance was held in a confined camp-circle, near the north fork of the Canadian River. The dancing-place was in the middle of this camp-circle, the ground of which was not quite level. Two or three sides of the dancing-place were surrounded by shelters of sticks and canvas. The old and middle-aged men sat on the west; the dancers, to the south and the north of the dancing-place, spectators standing behind them. At the eastern end was the drum. . . . The drum hung over four sticks; and about eight men sat crowded closely together around it, singing, and all beating it in unison, with sticks, the ends of which were wrapped in cloth. In beating the drum, they moved their entire body."[3]

THE SNAKE DANCE

The Hopi, sometimes called Moki, are a branch of the Shoshonean linguistic stock occupying the six pueblos of Walpi, Mishongnovi, Shumopovi, Oraibi, Hano, and Sichomovi[4] on a reservation in Northeastern Arizona. These people have an elaborate social organization[5] consisting of several phratries made up of numerous

1. A splendid collection of these sacred bundles is shown in the Mus. of the University of Pennsylvania, Philadelphia, Pa.

2. Kroeber. The Arapaho, p. 363.

3. Idem. pp. 363–364.

4. The spelling of these names varies in different accounts.

5. Every Hopi man or boy is at one time or another initiated into one of the following four fraternities: Agave (Kwan), Horn (Ahl), Singers (Tataokani), or Wowochimtu (meaning obscure); by this membership he becomes a member of the Soyal fraternity, which celebrates the winter solstice in December at the six villages of Oraibi, Shepaulovi, Mishongnovi, Walpi, Hano, and Shumopovi. A man can belong to any two of the above named fraternities, but his initiation into one of them is an absolute condition for

clans, each of which preserves its legends, ceremonies, and paraphernalia. Of these clans the most important are the Chua (Snake) people, supposedly the earliest to settle in Tusayan, and the Lengya (Flute) people. The Snake fraternity was originally united with the Ala (Horn) people who separated from them in their southerly migrations and united with the Flute (Lengya) people as the Ala-Lengya phratry. These two clans, the Snake and the Ala-Lengya, control the Antelope and Snake fraternities that possess the fetishes and other paraphernalia of the famous Snake Dance. This ceremony, which is in reality a prayer for rain, takes place in the month of August at the time of the ripening corn, and is held by the Snake and Antelope fraternities in the Hopi pueblos of Walpi, Mishongnovi, Shipaulovi, Shumopovi, and Oraibi every two years.

The Snake legend which deals with the origin of the ceremony "recounts that the children of the union of the Snake Hero and the Snake Maid were transformed into snakes, hence snakes are regarded by the Hopi as their elder brothers and are thought to be powerful in compelling the nature gods to bring rain. For this purpose they are set free at the close of the ceremony. The snake rite is thought to have been originally an observance of the ancient Snake-clan, which furnishes the chief of the society. The ceremony is believed to represent an agreement between the Snake and the Antelope clans to hold joint celebration of their respective rites, which no doubt conflicted when the clans originally came to live together."[1] Each of these fraternities has its separate, underground chamber (Kiva) where its priests meet and perform certain secret rites which continue for eight days preceding the public dance held on the ninth day. In all, the ceremonies may be said to cover a period of twenty-four days, which are divided into six groups of four days each. "The striking features of the complicated secret rites are the gathering of snakes from the world-quarters, the making of the sand altar, the snake washing, the snake drama, and the races which occur on the mornings of the days of the public 'dance' of the Snake fraternity. . . . Two species of rattlesnake and the bull and the whip snake are carried in the dance. The latter

his membership in the Soyal. To other societies, such as the Snake, Flute, Marau, etc., even to more than one he may belong, whether he is a member of one of those four fraternities or not. In this ceremony the dancers wear bells and turtle-shell leg rattles, also the hoof rattle. The gourd rattle is carried in the hand and the bone whistle, at certain points in the ceremony blown in water, is used. They also employ the notched stick with the gourd resonator. cf. Field Columbian Museum Pub. 55. Anthrop. Ser. III, No. 1, p. 9, March, 1901.

1. Hough. In Bur. Amer. Ethnol. Bul. 30. pt. 2. p. 605. Wash. 1910.

two are not venomous. The celebrants are rarely bitten by the dangerous snakes, a fact due largely to careful handling and to the 'herding' to which the snakes have been subjected between the time when they are gathered and the dance."[1] The picturesque body painting and ceremonial apparel of the priests are described by Dorsey and Voth[2] in their account of the Mishongnovi ceremony in 1901. The description of the preparation of the Antelope priests for the public dance is as follows:

"The young and middle-aged men, six or seven in number, painted their arms from their elbows to their wrists white, and their shoulders well down on to the breast were painted entirely white. From these, two stripes were continued on each side of the median line of the breast. These lines terminated in a band of white four inches in width, which entirely circled the body at the waist. The middle of the lower legs to the tips of the toes was painted white with a band, also white, above and below the knee.

"The old men and the small boys had the extremities of both arms and legs painted as were those of the middle-aged men described. They also had around their waists a band of white, but from this waist-band passed two zigzag lines which ran up to the shoulder and then down the front surface of each arm where it joined the band around the lower arm. In front of each leg was a zigzag line terminating in a white band above the ankles.

"The chin of all of the priests, including the old, middle-aged men, and the boys, was blackened with specular iron, its upper boundary being a white line which passed over the lower tip of the upper lip and extended from ear to ear. The costume of the Antelope men differed greatly from that of the Snake priests. Around the waist of the majority of the priests was the ordinary katcina kilt and sash, both fastened on the right side. From behind and thrust into the kilt depended a fox-skin.[3] Around the ankles were katcina ankle bands and around the left wrist and both legs just below the knees were strands of blue yarn, while over the right shoulder and passing down under the left arm was a yarn bandoleer. . . ."

1. Idem. pp. 604, 605.

2. Dorsey and Voth. The Mishongnovi Ceremonies of the Snake and Antelope Fraternities. In Field Columbian Museum. Pub. 66. Anthrop. Ser. III. No. 3. pp. 237, 248.

3. The costume of the Antelope priests bears a strong resemblance to that of Tlaloc, the Mexican rain god whose sculptured figure appears in the carvings of the Adoratorio at Palenque. While the Hopi priests wear a gray fox-skin hanging from the waist, the figure of Tlaloc has an animal skin hanging from the shoulders and he holds to his lips a tube (flute?) from which flames issue. Writhing serpents also appear in the background. cf. Am. Antq. vol. 5, p. 50. 1883.

The bodies of the Snake priests were blackened with soot from the bottom of an old cooking-vessel. "The face was also painted black, with a pink spot on the forehead, while the surface under the chin was painted white. On the outer upper and lower arms, the shoulders, the back of the shoulders, the center of the back, over the navel, and on each side of the breast, was now daubed a large pinkish colored spot. The legs above the knees were painted black, while a pink spot was now placed on the outside of the leg just above the knee. Over that portion of the face which had been blackened was rubbed specular iron. The costume of the Snake priests consisted of the *tcuwitkuna* (snake kilt), the *totoriki* (bandoleer), *hurunkwa* (a hollow stick with different kinds of feathers attached to it), the *nakwa ita* (a bunch of owl feathers and a bunch of eagle breath feathers, to the tips of which are tied bluebird feathers), the *mashmiata* (arm bands, made of the bark of a cottonwood root and worn on the upper arms), a *sikahtay pukaat* (foxskin), suspended behind from the belt, a *wokokwawa* (big belt), which is a fringed buckskin sash and a pair of red moccasins with fringed ankle bands, It should be remarked, however, that in a few instances the one or the other of these objects was missing. Each dancer also had a *ngumanmomokpu* (meal bag) and a *tcuwowahpi* (snake whip), and some had wrist-bands of various kinds." The eagle bone whistle (*ta-toyk-pi* or *totoeqpi*), the cane flute terminating in a small bell made from the section of a gourd, the whizzer or bull-roarer (*towokingpiata*), are used in the early part of the ceremony, but at the public dance only the disk-shaped rattle is used and the turtle-shell rattle with pendant hoofs worn by the Antelope priests attached to the leg below the knee. The rattle is made by stretching buckskin over a pair of circular disks, painted white and attached to a wooden handle. This rattle is carried in the right hands of the Antelope priests and marks the rhythm of the dance.

"The Snake and Antelope priests form in two lines facing and sway for a few minutes to the subdued chant of the Antelope chorus. The weird music increases in volume, the lines undulate like the gliding of a snake, the chorus grows louder, at intervals rising to a shout accompanied with a violent gesticulation that makes the flesh creep. The chant, which portrays the powers of nature and is of incomparable grandeur, ceases, and the line of Snake priests breaks up into groups of three—Carrier, Sustainer, and Gatherer—who dance with halting steps around the plaza in front of the line of Antelope priests. As each two come before the brush house in which the snakes are concealed, the Carrier drops to his knees and receives a snake which he grasps in his mouth and rising dances

th his attendants circularly around the plaza three times when drops the snake on the ground. The Collector picks it up and is is continued till all the snakes have been so honored, when ey are carried swiftly to the rocks below the mesa and set free to orm the gods of the need of rain."[1] At the close of the ceremony e priests purify themselves with quantities of a prepared drink at acts as an emetic. "The Snake dance formerly must have en widely distributed among the Pueblo tribes, as remnants of it found at Zuni, Laguna, Acoma, Sia, and Cochiti, and among ner Rio Grande villages. That it was practised in Mexico is denced by a picture in Sahagun's Historia. The Yokuts of lifornia held a rattlesnake ceremony, Tatulowis, which was sim- r in some respects to the Hopi dance." Stansbury also refers to tain points of resemblance between the ritual of the Peruvians d that of the Hopi in his paper on the Peruvian Asterisms and eir Relation to the Ritual.[2]

A festival similar to the Snake Dance of the Moquis was wit- sed by Antonio de Espejo[3] at Acoma in 1582. He refers to it as ows: "Hicieron nos un mitote y baile muy solemne, saliendo la ute muy galana y haciendo muchos juegos de manos, algunos los artificios con viveras vivas, que era cosa de ver lo uno y le o.[4]

BIBLIOGRAPHY OF THE SNAKE DANCE

xter, Rupert H. The Moki Snake Dance. In American Antiquarian, vol. 17, No. 4. Good Hope, Ill. July, 1895.

urke, Capt. John G. The Snake Dance of the Moquis of Arizona. N. Y. 1884. The Snake Ceremonials at Walpi. In American Anthropologist, vol. 8, Washington, April, 1895.

e, Curtis P. Moqui Snake Dance. In Moqui Mission Messenger, vol. 1, Nos. 8, 9.

rsey, George A. The Oraibi Snake Ceremony. In Field Columbian Museum Publication, No. 66, Anthrop. Ser. vol. 3, No. 4.

vkes, Walter J. A Suggestion as to the Meaning of the Moki Snake Dance. In Journal of American Folk-Lore, vol. 4, 1891. The Snake Ceremonials at Walpi (assisted by A. M.

Hough, Walter. Mss. Notes.

f. Congrès Internat. Américanistes 14, p. 593. 1904.

[4] Relacion, p. 180. Translation. An Indian dance of great solemnity held for us in which the participants came out gaily attired and performed many juggling feats, among them a trick with live snakes which very wonderful.

Bandelier. Papers of the Arch. Inst. Amer. Ser. III. pt. 1, p. 149, 1890.

Stephens and J. G. Owens). In Journal of American Ethnology and Archaeology, vol. 4, 1894. The Oraibi Flute Altar. In Journal of American Folk-Lore, vol. 4, 1894. The Oraibi Flute Altar. In Journal of American Folk-Lore, vol. 8, No. 31, Boston, October, December, 1895. (Notes on Walpi Snake Dance of 1895.) A Comparison of Sia Tusayan Snake Ceremonials. In American Anthropologist, vol. 8, Washington, April, 1895. Tusayan Snake Ceremonies. In Sixteenth Annual Report Bureau of Ethnology, 1894-1895, Washington, 1897. Antelope Altar in the Snake Dance. In American Anthropologist, vol. 10, 1897. The Snake Dance. In Journal of American Ethnology and Archaeology, vol. 4, Boston and New York, 1899. Notes on the Tusayan Snake and Flute Ceremonies. In Nineteenth Annual Report Bureau of Ethnology, 1897–1898. Washington, 1900.

Garland, Hamlin. Among the Moqui Indians. In Harper's Weekly, August 15, 1896.

Hodge, F. W. Pueblo Snake Ceremonials. In American Anthropologist, vol. 9, April, 1896.

Hough, Walter. The Moki Snake Dance. Chicago, 1898.

Masillon, C. Les Indiens Moki et leur danse de serpent. In Nature, vol. 24. Paris, 1896.

Politzer, J. H. Snake Dance of the Moquis. In the Herald, New York, Nov. 11, 1894. Mouthfuls of Rattlesnakes. In the Examiner, San Francisco, October 21, 1894. The Moqui Serpent Dance. In Republic, St. Louis, Nov. 7, 1894. Among the Moquis. In Daily Traveller, Boston, Nov. 7, 1894.

Rust, H. N. The Moqui Snake Dance. In Land of Sunshine, Los Angeles, January, 1896. Through Arizona's Wonderland. In Inter-Ocean, Chicago, July 26, 1896.

Stephen, A. M. Legend of the Snake Order of the Moquis as told by an outsider. In Journal of American Folk-Lore, vol. 1, 1888.

Stevenson, M. C. The Sia. In Eleventh Annual Report of Bureau of Ethnology, 1889-1890. Washington, 1894.

Taylor, E. B. The Snake Dance of the Moquis of Arizona. In Saturday Review, vol. 41.

Voth, H. R. The Oraibi Summer Snake Ceremony. In Field Columbian Museum Publication No. 83. Anthrop. Ser. 3, 1903.

Anonymous: The Moquis Serpent Dance. St. Louis Republican, Nov. 7, 1894. Among the Moquis. Snake Dance of the Moqui Indians, a religious drama and a prayer for rain. In

Times-Herald, Chicago, October 13, 1895. The Snake Dance. In Journal, Boston, August 28, 1895. A Moqui Snake Dance. In Bulletin, San Francisco, Sept. 3, 1895; Evening Sun, New York, Sept. 14, 1895. Snake Dance of the Moquis. In the Herald, New York, Nov. 11, 1894; Bee, Omaha, Sept. 22, 1895. An Indian Snake Dance. In Register, New Haven, Sept. 22, 1895. Weird Arizona Snake Dance. In Evening Gazette, Boston, October 10, 1896; reprinted from the World, New York. Amid Ancient Moqui Ruins. The Famous Snake Dance. In Times, Washington, Sept. 28, 1896. With the Snake Dancers. In Call, San Francisco, January 31, 1896. Moqui Snake Dances. In Scimitar, Memphis, October 21, 1896. The Moqui Snake Dances. In Sun, New York, Oct. 4, 1896. Hideous Rites. In Globe, Utica, October 10, 1896.

THE LEṄGYA OR FLUTE CEREMONIAL[1]

This is one of the most important, as well as one of the most complicated, ceremonies in the Tusayan ritual, and like the Snake Dance, is closely associated with the worship of the elements—sun, rain, and corn symbols figuring largely in the altars and their accessories. Comparing it with the Snake Dance, Fewkes says: "The same is true of the Snake Dance; but in both rites the cultus heroes and clan mothers are special deities to which the supplications for rain and corn are addressed. This is interpreted as a form of totemism in which the ancestors of the clan take precedence. The Sun as the father of all cultus heroes and the Earth as the mother of all gods, ancestral and otherwise, necessarily form an important part of the worship, which is traceable throughout both ceremonies."[2] The Flute observance is held at the same pueblos that

1. "In the flute legend we have an account of personages called the Deer Youth and the Mountain Sheep Youth, who sought the houses of the sun, one arriving at the hour of the summer solstice, while the other was delayed until the sun went down in his house at the winter solstice. Wonderful things were brought about by the use of a flute at that time. It is also recounted how Tiowa invented the flute, and with it in the underworld drew a maid to him and took her to the sun house, where she bore him many children. Possibly the Flute youth and maid effigies represent two of these offspring, especially as they are said to be the first of the Tubic people, a clan or phratry associated with the Ala or Flute people. Other clans likewise claim that their progenitors were children of Tiowa (Sun?) and this maid (Muiyinwu?)."

Muiyinwu is the figure illustrated by Fewkes (Bur. of Ethnol. 19th An. Rept. 1897–1898, p. 991. Wash. 1900), standing at the left of the Flute maiden in the altar of the Blue Flute Society.

2. Bur. of Ethnol. 19th An. Rept. pt. 2, 1897–1898, p. 1005. Wash. 1900.

have the Snake Dance and is celebrated at Walpi and Mishongnovi on even years, and at Oraibi, Shumopovi and Shipaulovi on odd years. That is, in 1896, which ends in an even number, Walpi and Mishongnovi observed a Flute ceremony, and Oraibi, Shumopovi, and Shipaulovi, the Snake Dance, the arrangement being reversed the following year. The ceremony extends over a period of nine days during the month of August, although a minor ceremony is also held at some of the pueblos during the winter.

In the ceremonies witnessed by Fewkes at Mishongnovi in 1896, the two Flute clans were represented, the Cakwalenya (Blue Flute) and the Macilenya (Drab Flute). At some of the pueblos but one of these clans survives. The secret rites of these two organizations were held in the ancestral rooms of the society, not in kivas, as in the Snake ceremonies. The altars of the two clans vary in details. In the altar of the Blue Flute clan at Mishongnovi, described by Fewkes, the reredos had two uprights with a transverse slat of wood at the top; the sides were decorated with rain-cloud pictures, the usual semi-circular rain-cloud form within a square outline,—resembling more or less the crude drawing of a mediaeval castle,—from which depended parallel lines, the rain symbol. The cross-bar had the semi-circular rain-cloud symbols and from this were hung four zigzag sticks representing lightning; these sticks are of the same outline as the serpentine figures that appear in the sand mosaics of the Snake altar. The base of the reredos was decorated with symbols representing maize and between the two uprights a ridge of sand supported a row of small sticks and slats of wood. Before the altar were placed the statuettes of the Flute youth, Lentiyo, and maiden, Lenyamana (the progenitors of the Flute Society), the former represented with a flute held to his lips; rudely carved wooden effigies of birds; the so-called flower-mounds of sand from which protruded wooden sticks with bell-shaped ends, similar in outline to the flutes used in the Snake Dance,—and other paraphernalia. The personnel of the ceremony at Mishongnovi was made up of Flute chiefs[1] who wore the white ceremonial kilt with a knotted sash; two Flute boys; four Flute girls, who were placed one on each side of the two boys, and carried certain ceremonial objects. The dress and facial decoration of the girls were identical with those of the Snake maid in the kiva during the dramatization about the Antelope altar at Walpi. They wore two white blankets, one as a skirt, the other hanging from the shoulders, turquoise pendants in the ears, and several necklaces, and a downy white feather was fixed in the hair at the crown of the head. The dress of the Flute boys was the same

1. Bur. of Ethnol. 19th An. Rept. pt. 2, 1897–1898, p. 997. Wash. 1900.

as that of the Snake youth at Walpi; each wore a feather in the hair and a white ceremonial kilt over his loins, and like the girls carried certain ceremonial objects in their hands. Besides these there were standard bearers, a "bearer of the moisture tablet," a "bearer of the Sun emblem," and a "warrior" who carried a bull-roarer or whizzer, "which he twirled at intervals."

Of the flute used to accompany the songs that formed a part of the ceremony at Walpi, Dr. Fewkes says: "The so-called flute used in the flute ceremony is different from the instrument usually known by that name, in that the person using it does not blow across a hole in the side, but across a terminal opening, although producing the tone by the same mechanical principle. To the extremity of the instrument is attached a trumpet-like piece of gourd, which is sometimes painted in many colors. The operator fingers certain holes along the side of the flute while playing."[1] The rhythm of the songs is also marked by the gourd rattles of the priests, the Flute chief holding the *pa-a-ya* or moisture rattle."[2] At certain intervals also the two whizzers were taken from the floor and twirled. The music of the Flute ceremonial has been described by Walter Hough[3] as follows:

"To one hearing Indian music for the first time the sensation was quite novel. The chorus of priests, rattle in hand, sang in unison before the Flute altar, in a narrow, low room without windows, generally augmenting the volume of sound.

"The time was set by the speaker-chief, who uniformly shook his rattle eight beats in five seconds for all the songs and for each day's songs with the accuracy of a metronome. There were three beats in each measure. The pitch was low, the range limited, and the deep, vibrant voices seemed to portray the winds, thunder, rain, the rushing of water, and the elemental forces of nature.

"The notation is chromatic, not possible to be expressed on any instrument save the violin or the specially constructed flutes which later accompanied the singing. These flutes marred the effect of the voices. They were played in unison on the octave above the voices.

"In the general effect the music is minor, but frequently

1. This is the ordinary Hopi flute made from a tube of cane and finished with the section of a gourd forming a bell-shaped terminal.

2. The *pa-a-ya*, or water rattle, consists of four gourd disks attached at intervals to a rod which is crooked at the end, from which small shells are suspended. Between the disks hooks are attached on an eagle-wing feather. The four disks were said to typify the four underworlds. Fewkes. The Walpi Flute Observance. In Jour. Amer. Folk-Lore, vol. 7, p. 272. Ill. on plate II. 1894.

3. Hough. In Amer. Anthrop. vol. 10, p. 162. 1897.

major motives of great beauty spring out of dead-level monotonous minors. Sometimes a major motive is followed by a minor counterpart of the same. There is much slurring and an occasional reduplication comes in with great effect. A number of songs are monotonous, with once in a while a strong staccato movement. The closing song was spirited and may truly be called beautiful. It consists of several legato verses, each closing with a turn, a rapid vibration of the rattle, and a solemn refrain. In structure and melody it resembles a Christian hymn. The music reminds one of the Gregorian chants, and to the listener some of the motives seemed quite equal to those upon which Handel built his great oratorios.

"The Hopi are noted far and near over the pueblo region as song-makers. It is a matter of surprise to travelers to find a cheerful, happy, music-loving people amid the arid wastes of Tusayan.

"I have heard the music of both the Zunis and the Hopis and know of nothing more effective than the singing by the priests at this time (Flute ceremony). There was something in it which was different from the ordinary Koko and Katcina music, and yet there could be no doubt of its aboriginal origin. It was a concert to which the most cultivated could not take exception. The voices of the singers were good, and if the flutes did not give the best accompaniment, the vocal part more than made up for their deficiency. Some one who has done me the honor of reviewing my account of Zuni music has said that this music is strangely enough not hideous yells or ear-splitting discord. I wish every one who has not heard the best aboriginal music could hear the songs of the Flute festival. I know very little about music and have no keen ear for classical productions, but I found in this Indian singing much which pleased me. It would be well to judge the musical capabilities of the Indians by these weird and characteristic songs, not by imaginary war-cries and discordant noises which form the basis upon which Indians have too often been criticized."

BIBLIOGRAPHY OF THE FLUTE CEREMONIAL

Fewkes, J. W. A Few Summer Ceremonials at the Tusayan Pueblos. In Journal of Amer. Ethnol. and Archaeology, vol. 2, No. 1, p. 108, 1892.

The Ceremonial Circuit among the Village Indians of Northeastern Arizona. In Jour. Amer. Folk-lore, vol. 5, p. 33, 1892. The Walpi Flute Observances. In idem, vol. 7, p. 265, 1894. The Oraibi Flute Altar. In idem, vol. 8, p. 265, 1895. The Miconinovi Flute Altars. In idem, vol. 9, p. 241, 1896. Provisional List of Annual Ceremonies at Walpi. In

Inter-Archiv. fur Ethnog, vol. 8, 1895. The Winter Solstice Ceremony at Walpi. In Amer. Anthrop. vol. 11, pp. 65, 101, 1898. The Winter Solstice Altars at Hano Pueblo. In idem, pp. 65, 101. A Group of Tusayan Ceremonials called Katcinas. In Bur. of Ethnol. 15th An. Rept., 1893-1894, Washington, 1897. Tusayan Migration Legends. In Bur. of Ethnol. 19th An. Rept. 1897-1898, pt. 2, Washington, 1900.

THE PEYOTE CEREMONY

The peyote or mescal is a species of small cactus found among the arid hills of the southwest. The "button" or downy center of the plant is used for medicinal purposes and is chewed by the participants of the peyote ceremony, upon whom it produces a sort of spiritual exaltation. Among the Tarahumare and other Mexican tribes the ceremony consists of a dance, but with the Plains tribes it is usually performed as an invocation in cases of illness, and partakes more of the spirit of prayer and meditation. The men gather about a sacred fire in the center of the tipi where prayers are offered, and sacred songs, accompanied by the drum and rattle, continue from early morning until the following day. A feast is held at the close of the ceremony. cf. James Mooney, in Bur. of Ethnol. Bul. 30, pt. 2, p. 237, Wash. 1910.

BIBLIOGRAPHY

BIBLIOGRAPHY

THIS BIBLIOGRAPHY IS INCOMPLETE AND ONLY AIMS TO GIVE SOME OF THE SOURCES OF INFORMATION ON THE ABORIGINAL MUSIC OF OCEANICA AND AMERICA.

ABBOTT, CHARLES C. *Musical Instruments of Bone.* (In Report of United States Geographical Surveys west of the 100th meridian, vol. 7, Washington, 1879.)

ABEL, P. *Knabenspiele auf Neu-Mecklenburg.* (In Anthropos, vol. 2, Salzburg, 1907.)

ABRAHAM, O., and E. M. VON HORNBOSTEL. *Phonographirte Indianermelodieen aus British Columbia.* (In Boas Anniversary Volume. New York, 1906.)

Academy of Sciences of Philadelphia, Proceedings of 1883. Philadelphia, 1884.

ALEXANDER, W. DE W. *A Brief History of the Hawaiian People.* New York, 1891.

ALLEN, HENRY T. *Atnatanas; Natives of Copper River, Alaska.* (In Annual Report Smithsonian Institution, 1886, pt. 1, Washington, 1889.)

American Anthropological Association Memoirs. Lancaster, Pa., 1907.

American Anthropologist. Washington, D. C.

American Antiquarian. Washington, D. C.

American Art Journal. London, 1903.

American Association for the Advancement of Science. Salem, Mass.

American Ethnology and Archaeology, Journal of. Boston, 1891-1908.

American Folk-Lore, Journal of. Boston and New York.

American Folk-Lore Society, Memoirs.

American Museum of Natural History, Anthropological Papers of the. New York.

American Museum of Natural History, Bulletins of the. New York.

American Naturalist. Salem, Mass.

ANDREE, RICHARD. *Alte Trommeln indianischer Medizinmänner.* (In Globus, vol. 75, No. 1, 1899.) *Die Nasenflöte.* (In idem, No. 9.)

ANGAS, G. F. *Savage Life and Scenes in Australia and New Zealand.* London, 1847.

Anthropological Institute of America, Publications of. New York, 1907.

Anthropological Institute of Great Britain and Ireland, Journal of the. London, 1907.

Anthropological Papers written in honor of Franz Boas. (In Boas Anniversary Volume, New York, 1906.)

Anthropological Publications of the University of Pennsylvania, 1909.

Appleton's Popular Science Monthly, New York, 1899.

Archaeological Institute of America, Publications of the.
Archivio per Antropologia e la Etnologia, Firenze.

Babcock, W. H. *Nanticoke Indians of Indian River, Delaware.* (In American Anthropologist, n. s. vol. 1, Washington, 1899.)

Bacqueville de la Potherie. *Histoire de l'Amérique septentrionale, 1753.* Paris.

Baglioni, S. *Ein Beitrag zur Kenntnis der natürlichen Musik.* (In Globus, vol. 98, Nos. 15, 16, 17, 1910.)

Baker, Theodor. *Über die Musik der nordamerikanischen Wilden,* Eine Abhandlung zur Erlangung der Doctorwürde an der Universität. Leipzig. 1882.

Balfour, Henry. *The Old British "Pibcorn" or "Hornpipe" and its Affinities.* (In Journal of the Anthropological Institute of Great Britain and Ireland, vol. 20, London, 1891.)

Report on a Collection of Musical Instruments from the Siamese Malay States and Perak. Liverpool, 1894.

The Natural History of the Musical Bow. Oxford, 1899.

Three Bambu Trumpets from Northern Territory, South Australia. (In Man, a monthly record of Anthropological Science, vol. 1. London, 1901.)

Fasciculi Malayenses. London, 1903.

The Friction Drum. (In Royal Anthropological Institute of Great Britain and Ireland, vol 37, 1907. London, 1907.)

Bancroft, Hubert Howe. *The Native Races of the Pacific States of North America.* New York, 1875.

Bandelier, Adolf F. *Historical Introduction to Studies among the Sedentary Indians of New Mexico.* (In Papers of the Archaeological Institute of America, American series, vol. 1, Boston, 1881.)

Report of an Archaeological Tour in Mexico in 1881. (In idem, vol. 2, Boston, 1884.)

An Outline of the Documentary History of the Zuni Tribe. (In Journal of American Ethnology and Archaeology, vol. 3, Boston, 1892.)

The Montezuma of the Pueblo Indians. (In American Anthropologist, vol. 5, Washington, 1892.)

La Danze des "Sicuri" des Indiens Aymara de la Bolivie. (In Boas Anniversary Volume. New York, 1906.)

The Islands of Titicaca and Koati. New York, 1910.

Baraga, R. R. Bishop Frederick. *The Chippewa Dictionary.* Montreal, 1878.

Barber, Edwin AtLee. *Notes on Native American Pottery.* (In American Antiquarian, vol. 8, 1886.)

Barrett, S. A. *The Material Culture of the Klamath, Lake and Modoc Indians.* (In University of California Publications in American Archaeology and Ethnology, vol. 5, Berkeley, 1907.)

Bartram, William. *Travels through North and South Carolina, Georgia, East and West Florida.* London, 1792.

Baxter, Rupert H. *The Moqui Snake Dance.* (In American Antiquarian, vol. 17, 1895.)

Beach, W. W. *The Indian Miscellany,* Albany, 1877.

Beauchamp, Rev. W. M. *The Iroquois White Dog Feast.* (In American Antiquarian, vol. 7, 1885.) *Permanency of the Iroquois Clans and Sachemships; The Origin and Antiquity of the New York Iroquois.* (In idem, vol. 8, 1886.)

Onondaga Tales. (In Journal of American Folk-Lore, vol. 1, 1888;

vol. 2, 1889.) *Iroquois Notes.* (In idem, vol. 4, 1891.) *Onondaga Notes; Mohawk Notes.* (In idem, vol. 8, 1895.) *The New Religion of the Iroquois.* (In idem, vol. 10, 1897.)

BECKWITH, MARTHE WARREN. *Dance Forms of the Moqui and Kwakiutl Indians.* (In Compte rendu du Congrès International des Américanistes, 15, Quebec, vol. 2, 1906-1907.)

BECKWITH, PAUL. *Notes on Customs of the Dakotahs.* (In Annual Report Smithsonian Institution, 1886, part 1, Washington, 1889.)

BEST, ELSDON. In Journal of Polynesian Society, vol. 11, 1902, p. 153.

BEVERLEY, ROBERT. *The History of Virginia.* Ed. 2. London, 1722.

BIART, LUCIEN. *The Aztecs, their History, Manners and Customs.* Translated by J. L. Garner, 1892.

BLACKISTON, A. HOOTON. *Recent Discoveries in Honduras.* (In American Anthropologist, n. s. vol. 12, 1910.)

BOAS, FRANZ. *The Central Eskimo.* (In Sixth Annual Report of the Bureau of Ethnology, 1884-1885, Washington, 1888.)

Myths and Legends of the Catloltq of Vancouver Island. (In American Antiquarian, vol. 10, 1888.)

Notes on the Snanaimuq. (In American Anthropologist, vol. 2, 1889.)

Northern Elements in the Mythology of the Navaho. (In idem, vol. 10, 1897.)

On Certain Songs and Dances of the Kwakiutl of British Columbia; Chinook Songs. (In Journal of American Folk-Lore, vol. 1, 1888. Also in Internationales Archiv für Ethnographie, Supplement to vol. 9, Leiden, 1896.)

Eskimo Tales and Songs (see Rink). (In idem, vol. 2, 1889; vol. 7, 1894; vol. 10, 1897.) *The Growth of Indian Mythologies.* (In idem, vol. 9, 1896.)

Boas Anniversary Volume, Anthropological Papers written in honor of Franz Boas. New York, 1906.

The Social Organization and Secret Societies of the Kwakiutl Indians. (In Annual Report Smithsonian Institution, 1895, Washington, 1897.)

The Decorative Art of the Indians of the North Pacific Coast. (In Bulletin American Museum of Natural History, vol. 9, New York, 1897.)

The Mythology of the Bella Coola Indians. (In Memoirs of the American Museum of Natural History, vol. 2, Anthropology, Jesup North Pacific Expedition, part 2, New York, 1898.) *The Kwakiutl of Vancouver Island.* (In idem, vol. 8, Anthropology, part 2, New York, 1909.

BOCK, CARL. *The Head-Hunters of Borneo; A Narrative of Travel up the Mahakkam and down the Barito; also Journeyings in Sumatra.* London, 1882.

BOLTON, H. CARRINGTON. *Gombay: A Festal Rite of Bermudian Negroes.* (In Journal of American Folk-Lore, vol. 3, 1890.)

BOMAN, ÉRIC. *Antiquités de la Région Andine de la République Argentine et du Désert d'Atacama.* (In Mission Scientifique, vol. 2. Paris, 1908.)

BOURKE, CAPTAIN JOHN G. *The Snake Dance of the Moquis of Arizona.* New York, 1884.

Apache Mythology; Notes upon the Gentile Organization of the Apache of Arizona. (In Journal of American Folk-Lore, vol. 3, 1890.)

Notes upon the Religion of the Apache Indians. (In Folk-Lore, vol. 2, London, 1891.)

The Medicine-Men of the Apache. (In Ninth Annual Report Bureau of Ethnology, 1887-1888, Washington, 1892. See also *Die Schamanen der Apachen,* in Globus, vol. 65, No. 6, 1894.)

BOUTWELL, REV. W. T. *Schoolcraft's Exploring Tour of 1852.* (In Collection of the Minnesota Historical Society, vol. 1. St. Paul, 1872.)

BRACKETT, ALBERT G. *The Sioux or Dakota Indians.* (In Annual Report Smithsonian Institution, 1876, Washington, 1877.) *The Shoshonis or Snake Indians; their Religion, Superstitions and Manners.* (In idem, 1879, Washington, 1880.)

BRANSFORD, J. F. *Archaeological Researches in Nicaragua.* (In Smithsonian Contributions to Knowledge, vol. 25. Washington, 1885.)

BRETON, ADELA C. *Survival of Ceremonial Dances among Mexican Indians.* (In Compte rendu du Congrès International des Américanistes, 16, Wien, 1908.)

BRETT, REV. WM. HENRY. *The Indian Tribes of Guiana.* London, 1868.

BRICKELL, JOHN. *The Natural History of North Carolina.* Dublin, 1737.

BRINTON, DANIEL G. *The Comedy Ballet of Gueguence.* Philadelphia, 1883.

The Maya Chronicles. (In the Library of Aboriginal American Literature, vol. 2, 1882.) *Nicaraguan Musical Instruments and Music.* (In American Antiquarian, vol. 3, 1883.) *Native American Stringed Musical Instruments.* (In idem, vol. 19, 1897.)

British Museum Handbook of the Ethnographical Collections. London, 1910.

BROEKHOVEN, J. VAN. *American Indian Music.* (In Musical Observer, vol. 5, No. 4, New York, 1911.)

BROWN, HERBERT HOWE. *A Pima-Maricopa Ceremony.* (In American Anthropologist, n. s. vol. 8, 1906.)

BROWN, MARY E., AND WILLIAM ADAMS. *Musical Instruments and their Homes.* New York, 1888.

BROWNELL, CHARLES DE WOLF. *The Indian Races of North and South America.* Cincinnati, 1853.

BURTON, FREDERICK R. *American Primitive Music. With Especial Attention to the Songs of the Ojibways.* New York, 1909.

BURTON, RICHARD FRANCIS. *Explorations of the Highlands of Brazil.* London, 1869.

BUSHNELL, DAVID I., JR. *An Ojibway Ceremony.* (In American Anthropologist, n. s. vol. 7, 1905.

Appunti Sopra alcuni oggetti dell' America del nord esistenti nel Museo Antropologico di Firenze. (In Archivio per l'antropologia e la etnologia, 35, Firenze, 1905.)

The Choctaw of Bayou Lacomb, St. Tammany Parish, Louisiana. (In Bureau of American Ethnology, Bulletin 48, Washington, 1909.

BUTEL-DUMONT, GEORGE MARIE. *Mémoires sur la Louisiane.* Paris, 1753.

CAPITAN, DR. *L'Omichicabuatzli mexicain et son ancêtre de l'époque du renne en Gaule.* (In Compte rendu du Congrès International des Américanistes, 16. Wien, 1908.)

CARRINGTON, HENRY B. *The Dakotah Tribes.* Salem, Mass., 1881.

CATALOGUES: The National Museum. Washington, D. C.
Rijks Ethnographisch Museum. Leiden, Netherlands.
Musée Instrumental du Conservatoire Royal de Musique. Brussels.
Musée du Conservatoire National de Musique. Paris.
Musikhistorisk Museum. Copenhagen, 1909.

CATLIN, GEORGE. *The Manners, Customs and Conditions of the North American Indians.* London, 1841.

O-kee-pa: A religious ceremony; and other customs of the Mandans. London, 1867.

The George Catlin Indian Gallery in the United States National Museum with Memoirs and Statistics. (In Annual Report Smithsonian Institution, 1885, part 2. Washington, 1886.) (See Donaldson.)

Century Magazine. New York, vol. 47. 1893-1894.

CHAMBERLAIN, ALEX. F. *Notes on the Mississagua Indians.* (In Journal of American Folk-Lore, vol. 1, 1888; vol. 2, 1889; vol. 3, 1890.)

Kootenay "Medicine men." (In idem, vol. 14, 1901.)

The Thunder-bird amongst the Algonkins. (In American Anthropologist, vol. 3, 1890.)

South American Linguistic Stocks. (In Compte rendu du Congrès International des Américanistes, 15, Quebec, 1907.)

CHAPMAN, REV. JOHN W. *Notes on the Tinneh Tribe of Anvik, Alaska.* (In Compte rendu du Congrès International des Américanistes, 15, Quebec, 1907.)

CHARLEVOIX, P. DE. *Histoire et Description Generale de la Nouvelle France.* Paris, 1744.

CHERVIN, LA, DR. ARTHUR. *Anthropologie Bolivienne.* (In Mission Scientifique. Paris, vol. 2, 1908.)

CLAVIGERO, D. FR. S. *Storia antica del Messico cavata da' migliori storici spagnuoli, e da' manoscritti, e dalle pitture antiche degl' Indiani, etc.* Cesena, 1780.

COBO, P. BERNABÉ. *Historia del Nuevo Mundo. 1683.* Sevilla, 1890.

COLBY, L. W. *Wanagi olowan kin. The Ghost Songs of the Dakotas.* (In Nebraska State Historical Society, Proceedings and Collection, vol. 1, 1894-1895. Second Series.)

Collections of the Minnesota Historical Society. St. Paul, Minn., vol. 1, 1872.

Compte rendu du Congrès International des Américanistes.

Cosmopolitan, The. New York, 1898.

COZZENS, SAMUEL WOODWORTH. *The Marvellous Country, or Three Years in Arizona and New Mexico, The Apaches' Home.* London, 1874.

CRAWFURD, JOHN. *History of the Indian Archipelago.* Edinburgh, 1820.

A descriptive dictionary of the Indian Islands and adjacent countries. London, 1856.

CRESSON, H. T. *Aztec Music.* (In Proceedings of the Academy of Sciences of Philadelphia, 1883. Philadelphia, 1884.)

CULIN, STEWART. *Games of the North American Indians.* (In Twenty-fourth Annual Report of the Bureau of Ethnology, 1902-1903, Washington, 1907.)

CURRIER, REV. CHARLES WARREN. *Indian Languages in the United States.* (In Compte rendu du Congrès International des Américanistes, 14, Stuttgart, 1904.)

CURTIS, EDWARD S. *The North American Indian.* Cambridge, Mass. 1907-1911.

CURTIS, NATALIE. *Songs of Ancient America: Three Pueblo Indian corn-grinding songs from Laguna, New Mexico.* New York, 1905.

The Indians' Book. New York and London, 1907.

CUSHING, FRANK HAMILTON. *The Nation of the Willows.* (In the Atlantic Monthly, vol. 50, New York, 1882.)

The Zuni Social, Mythic, and Religious Systems. (In Popular Science Monthly, vol. 21, New York, 1882.)

Outline of the Zuni Creation Myths. (In Thirteenth Annual Report Bureau of Ethnology, 1891-1892, Washington, 1896.)

Zuni Folk Tales. New York and London, 1901.

Katalog einer Sammlung von Idolen, Fetischen und priesterlichen Ausrüstungsgegenständen der Zuni oder Ashiwi-Indianer von Neu-Mexiko. (*U. S. A.*) (In Veroffentlichungen aus dem Königlichen Museum für Völkerkunde, Band 4. Berlin, 1895.)

D'Albertis, L. M. *New Guinea: What I did and what I saw.* London, 1880.

Dall, W. H. *On Masks, Labrets, and Certain Aboriginal Customs, with an Inquiry into the bearing of the Geographical Distribution.* (In Third Annual Report Bureau of Ethnology, 1881-1882, Washington, 1884.)

Dalton, O. M. *Notes on an Ethnological Collection from the West Coast of America (more especially California), Hawaii and Tahiti, formed during the voyage of Captain Vancouver, 1790-1795.* (In Internationales Archiv für Ethnographie, vol. 10, Leiden, 1897.)

Davenport Academy of Natural Sciences, Proceedings of. Davenport, Iowa, 1900.

Dawson, G. M. *Report on the Queen Charlotte Islands, 1878.* (In Geological Survey of Canada, Report of Progress for 1878-1879. Montreal, 1880.)

Deans, James. *The Story of the Bear and his Indian Wife; a Legend of the Haidas of Queen Charlotte's Island, B. C.* (In Journal of American Folk-Lore, vol. 2, 1889.)

The Raven in the Mythology of Northwest America. (In American Antiquarian, vol. 10, 1888; idem, vol. 11, 1889.) *A Weird Mourning Song of the Haidas; The Story of Skaga Belus; The Moon Symbol on the Totem Posts of the Northwest Coast.* (In idem, vol. 13, 1891.) *When Patlatches are Observed.* (In idem, vol. 18, 1896.)

Dellenbaugh, Frederick S. *The North Americans of Yesterday.* New York and London, 1901.

Deniker, J. *The Races of Man.* London, 1900.

Densmore, Frances. *The Music of the Filipinos.* (In American Anthropologist, n. s., vol. 8, 1906.) *Scale Formation in Primitive Music.* (In idem, n. s., vol. 11, 1909.)

Chippewa Music. (In Bureau of American Ethnology, Bulletin 45, Washington, 1910.)

De Wit, Augusta. Facts and Fancies about Java. Philadelphia, 1905.

Dixon, Roland B. *The Northern Maidu.* (In Bulletin of the American Museum of Natural History, vol. 17, part 3. New York, 1905.)

The Shasta. (In idem, vol. 17, part 5. New York, 1907.)

Domenech, Abbe Em. *Seven Years' Residence in the Great Deserts of North America.* London, 1860.

Donaldson Thomas. *The George Catlin Indian Gallery in the United States National Museum with Memoir and Statistics.* (In Annual Report Smithsonian Institution, 1885, part 2, Washington, 1886.)

Dorsey, George A. *The Hopi Indians of Arizona.* (In Appleton's Popular Monthly, vol. 55. New York, 1899.)

Hand or Guessing Game among the Wichitas. (In American Antiquarian, vol. 23, 1901.)

The Osage Mourning-War Ceremony. (In American Anthropologist, n. s., vol. 4, 1902.)

Traditions of the Skidi Pawnee. (In Memoirs of the American Folk-Lore Society, vol. 8, 1904.)

The Oratibi Soyal Ceremony (assisted by H. R. Voth). (In Field Columbian Museum, Publication No. 55, Anthropological Series, vol. 3,

March, 1901.) *The Mishongnovi Ceremonies of the Snake and Antelope Fraternities.* (In idem, No. 66, vol. 3, June, 1902.) *The Arapaho Sun Dance; The Ceremony of the Offerings Lodge.* (In idem, No. 75, vol. 4. June, 1903.) *Traditions of the Arapaho* (assisted by A. L. Kroeber). (In idem, No. 81, vol. 5, October, 1903.) *The Cheyenne; I. Ceremonial Organization.* (In idem, No. 99, vol. 9. March, 1905.) *The Cheyenne; II. The Sun Dance.* (In idem, No. 103, vol. 9. May, 1905.) *The Ponca Sun Dance.* (In idem, No. 102, vol. 7, 1905.)

DORSEY, J. OWEN. *Omaha Sociology.* (In Third Annual Report Bureau of Ethnology, 1881-1882, Washington, 1884.)

The Religion of the Omahas and Ponkas. (In American Antiquarian, vol. 5, 1883.) *Myths of the Raccoon and Crawfish among the Dakotah Tribes.* (In idem, vol. 6, 1884.) *Siouan Folk-Lore and Mythological Notes.* (In idem, vol. 7, 1885.)

Songs of the Hecucka Society; Omaha Songs; Ponka Stories; Omaha and Ponka Myths. (In Journal of American Folk-Lore, vol. 1, 1888.) *Teton Folk-Lore Notes; Ponka and Omaha Songs.* (In idem, vol. 2, 1889.) *The Social Organization of the Siouan Tribes.* (In idem, vol. 4, 1891.)

Omaha Clothing and Personal Ornament. (In American Anthropologist, vol. 3, 1890.)

A Study of Siouan Cults. (In Eleventh Annual Report Bureau of Ethnology, 1889-1890. Washington, 1894.)

Siouan Sociology. (In Fifteenth Annual Report Bureau of Ethnology, 1893-1894, Washington, 1897.)

DRAKE, FRANCIS S. *The Indian Tribes of the United States.* Philadelphia, 1884.

DRAKE, SAMUEL G. *Biography and History of the Indians of North America.* Boston, 1857.

DUBOIS, CONSTANCE GODDARD. *Religious Ceremonies and Myths of the Mission Indians.* (In American Anthropologist, n. s., vol. 7, 1905.)

Two Types of Styles of Diegueno Religious Dancing; The Old and the New in Southern California. (In Compte rendu du Congrès International des Américanistes, 15, Quebec, 1907.)

DUNN, ED. *Religious Rites and Customs of the Iban or Dyaks of Sarawak, Borneo.* (In Anthropos, vol. 1, Salzburg, 1906.)

DU PRATZ, ANTOINE SIMON LE PAGE. *Histoire de la Louisiane.* Paris, 1758.

EASTMAN, MRS. MARY. *Dahcotah, or Life and Legends of the Sioux around Fort Snelling.* New York, 1849.

EDMANDS, LILA W. *Songs from the Mountains of North Carolina.* (In Journal of American Folk-Lore, vol. 6, 1893.)

EDWARDS, CHARLES L. *Some Tales from Bahama Folk-Lore.* (In Journal of American Folk-Lore, vol. 4, 1891.)

Bahama Songs and Stories. Boston and New York, 1895. (In American Folk-Lore Society Memoirs, vol. 3, 1895.)

EELLS, REV. MYRON. *The Potlatches of Puget Sound.* (In American Antiquarian, vol. 5, 1883.) *The Religion of the Indians of Puget Sound; Myths of the Puget Sound Indians.* (In idem, vol. 12, 1890.)

The Twana, Chemakum, and Klallam Indians, of Washington Territory. (In Annual Report Smithsonian Institution, 1887, part 1. Washington, 1889.)

The Thunder-Bird. (In American Anthropologist, vol. 2, 1889.)

EHRENREICH, P. *Beiträge zur Völkerkunde Brasiliens.* (In Veröffentlichungen aus dem Königlichen Museum für Völkerkunde, vol. 2, Berlin, 1891.) *Ein Ausflug nach Tusayan (Arizona) im Sommer 1898.* (In Globus, vol. 76, Nos. 4, 5, 6, 9, 10, 11, 1899.)

EMERSON, ELLEN RUSSELL. *The Book of the Dead and Rain Ceremonies.* (In American Anthropologist, vol. 7, 1894.)

ENDE, A. VON. *Die Musik der nordamerikanischen Indianer.* (In Die Musik. 2 Jahr. Heft. 10. Berlin, 1903.)

ENGEL, CARL. *The Study of National Music.* London, 1866.

Musical Instruments in the South Kensington Museum. London, 1874.

ENOCK, C. REGINALD. *The Andes and the Amazon: Life and Travels in Peru.* London, 1907.

Essex Institute, Bulletins of the. Salem, Mass.

Ethnologic Dictionary of the Navaho Language. The Franciscan Fathers, St. Michael, Arizona, 1909.

EWBANK, THOMAS. *Life in Brazil.* New York, 1856.

FARWELL, ARTHUR. *American Indian Melodies.* Newton Center, Mass. 1901.

FERREE, BARR. *The Element of Terror in Primitive Art.* (In American Antiquarian, vol. 11, 1889.)

FÉTIS, F. J. *Histoire de la Musique.* Paris, 1869-1876.

FEWKES, J. WALTER. *A Contribution to Passamaquoddy Folk Lore.* (In Journal of American Folk-Lore, vol. 3, 1890.) *A Suggestion as to the Meaning of the Moki Snake Dance.* (In idem, vol. 4, 1891.) *The Ceremonial Circuit among the Village Indians of Northeastern Arizona; The Na-ac-nai-ya; a Tusayan Initiation Ceremony* (assisted by A. M. Stephens). (In idem, vol. 5, 1892.) *The Pa-lu-lu-kon-ti: a Tusayan Ceremony.* (In idem, vol. 6, 1893.) *The Walpi Flute Observance; a Study of Primitive Dramatization.* (In idem, vol. 7, 1894.) *The Oraibi Flute Altar.* (In idem, vol. 8, 1895.) *The Miconinovi Flute Altars.* (In idem, vol. 9, 1896.) *The Sacrificial Element in Hopi Worship.* (In idem, vol. 10, 1897.) *The Growth of the Hopi Ritual.* (In idem, vol. 11, 1898.) *Hopi Basket-Dances.* (In idem, vol. 12, 1899.)

A Study of Summer Ceremonials at Zuni and Moki Pueblos. (In Bulletin 22, of the Essex Institute, Salem, 1890.)

A Few Summer Ceremonials at Zuni Pueblos. (In Journal of American Ethnology and Archaeology, vol. 1, 1891.) *A Few Summer Ceremonials at the Tusayan Pueblo.* (In idem, vol. 2, 1892.) *The Snake Ceremonials at Walpi,* (assisted by A. M. Stephens and J. G. Owens). (In idem, vol. 4, 1894.)

A Few Tusayan Pictographs; The La-la-kon-ta: A Tusayan Dance (assisted by Owens). *The Mam-zrau-ti: A Tusayan Ceremony* (assisted by Stephens). (In American Anthropologist, vol. 5, 1892). *A Central American Ceremony which Suggests the Snake Dance of the Tusayan Villages; A-wa-to-bi: An Archaeological Verification of a Tusayan Legend.* (In idem, vol. 6, 1893.) *The Kinship of a Tanoan-speaking Community in Tusayan; The Kinship of the Tusayan Villagers; On certain Personages who appear in a Tusayan Ceremony.* (In idem, vol. 7, 1894.) *A Comparison of Sia and Tusayan Snake Ceremonials.* (In idem, vol. 8, 1895.) *Prehistoric Culture of Tusayan.* (In idem, vol. 9, 1896.) *Tusayan Totemic Signatures; Morphology of Tusayan Altars.* (In idem, vol. 10, 1897.) *The Feather Symbol in Ancient Hopi Design; The Winter Solstice Ceremony at Walpi.* (In idem, vol. 11, 1898.) *The Winter Solstice Altars at Hano Pueblo.* (In idem, n. s., vol. 1, 1899.)

The Aloska Cult of the Hopi Indians. (In American Anthropologist, n. s., vol. 1, 1899.) *The New Fire Ceremony at Walpi.* (In idem, vol. 2, 1900.) *The Owakulti Altar at Sichomovi Pueblo; The Lesser New Fire Ceremony at Walpi.* (In idem, vol. 3, 1901.) *Minor Hopi Festivals.* (In idem, vol. 4, 1902.) *Hopi Shrines near the East Mesa, Arizona.* (In idem, vol. 8, 1906.) *The Butterfly in Hopi Myth and Ritual.* (In idem, vol. 12, 1910.)

A Theatrical Performance at Walpi. (In Proceedings of the Washington Academy of Science, vol. 2, Washington, 1900.)

A Group of Tusayan Ceremonials called Katcinas. (In Fifteenth Annual Report Bureau of Ethnology. 1893-1894. Washington, 1897.) *Tusayan Snake Ceremonies.* (In idem, Sixteenth Annual Report, 1894-1895. Washington, 1897.) *Tusayan Migration Traditions; Notes on Tusayan Snake and Flute Ceremonies.* (In idem, Nineteenth Annual Report, 1897-1898. Washington, 1900.) *Hopi Katcinas drawn by a native artist.* (In idem, Twenty-first Annual Report, 1899-1900. Washington, 1903.) *Two Summers' Work in Pueblo Ruins.* (In idem, Twenty-second Annual Report, 1900-1901. Washington, 1904.) *The Aborigines of Porto Rico and Neighboring Islands.* (In idem, Twenty-fifth Annual Report, 1903-1904. Washington, 1907.)

Field Columbian Museum Publications, Anthropological Series. Chicago.

FILLMORE, JOHN COMFORT. *A Woman's Song of the Kwakiutl Indians.* (In Journal of American Folk-Lore, vol. 6, 1893.)

Report on the Structural Peculiarities of the Omaha Music. (In Archaeological and Ethnological Papers of the Peabody Museum, vol. 1, Cambridge, Mass., 1893.)

A Study of the Indian Music. (In the Century Magazine, vol. 47, pp. 616-623, New York, 1893-1894.)

The Harmonic Structure of Indian Music. (In American Anthropologist, n. s., vol. 1, 1899.)

FISCHER, E. *Patagonische Musik.* (In Anthropos, vol. 3, Salzburg, 1908.)

FISHER, WILLIAM. *New Travels among the Indians of North America.* Philadelphia, 1812.

FLETCHER, ALICE C. *The Sun Dance of the Ogalalla Sioux.* (In Proceedings of the American Association for the Advancement of Science, vol. 31, 1882. Salem, 1883.)

Glimpses of Child Life among the Omaha Tribe of Indians (assisted by Francis la Flesche). (In Journal of American Folk-Lore, vol. 1, 1888.) *Leaves from my Omaha Note Book; Courtship and Marriage.* (In idem, vol. 2, 1889.) *The Indian Messiah.* (In idem, vol. 4, 1891.) *Hae-thu-ska Society of the Omaha Tribe.* (In idem, vol. 5, 1892.) *Indian Songs and Music.* (In idem, vol. 11, 1898; also in Proceedings of the American Association for the Advancement of Science, vol. 44, 1895. Salem, 1896.)

A Study of Omaha Music. (In Archaeological and Ethnological Papers of the Peabody Museum, vol. 1, Cambridge, Mass., 1893.)

Häusliches Leben bei den Indianern. (In Globus, vol. 73, No. 16, 1898.)

Indian Story and Song from North America. Boston, 1900.

Indian Songs. (In the Century Magazine, vol. 47. 1893-1894.)

The Sacred Pole of the Omaha Tribe. (In Proceedings of the American Association for the Advancement of Science, vol. 44, 1895. Salem, 1896.)

The Import of the Totem. (In Science, n. s., vol. 7, 1898.)

The Pawnee Ritual used when Changing a Man's Name. (In American Anthropologist, n. s., vol. 1, 1899.) *Star Cult among the Pawnee.* (In idem, n. s., vol. 4, 1902.)

The Hako: A Pawnee Ceremony, (assisted by J. R. Murie and Edwin S. Tracy). (In Twenty-second Annual Report Bureau of Ethnology, 1900-1901, Washington, 1904.) *The Omaha Tribe,* (assisted by Francis la Flesche). (In idem, Twenty-seventh Annual Report, 1905-1906. Washington, 1911.)

Folk-Lore. A Quarterly Review of Myth, Tradition, Institution, and Custom. London.

Folk-Lore, Journal of. Boston and New York.

FRANCISCAN FATHERS. *An Ethnologic Dictionary of the Navaho Language.* St. Michael, Arizona, 1909.

FRAZAR, J. G. *Totemism.* Edinburgh, 1887.

FROEBEL, JULIUS. *Seven Years' Travel in Central America.* London, 1859.

FROST, JOHN. *The Book of the Indians of North America.* Hartford. 1852.

GAGNON, ERNEST. *Les Sauvages de l'Amérique et l'Art Musical.* (In Compte rendu du Congrès International des Américanistes, 15, Quebec, 1906-1907.)

GAILLARD, D. D. *The Papago of Arizona and Sonora.* (In American Anthropologist, vol. 7, 1894.)

GALPIN, REV. F. M. *The Whistles and Reed Instruments of the American Indians of the Northwest Coast.* (In Proceedings of the Musical Association, 29th Session, London, 1902, 1903.)

Aztec Influence on American Indian Instruments. (In Sammelbände der Internationalen Musik-Gesellschaft, vol. 4, No. 4, Leipzig, 1903.)

GARDNER, ALLEN F. *A Visit to the Indians on the Frontier of Chili.* London, 1841.

GATSCHET, ALBERT S. *Songs of the Modoc Indians.* (In American Anthropologist, vol. 7, 1894.)

Manuscript of Arapaho Vocabulary. United States National Museum, Washington.

The Klamath Indians of Southwestern Oregon. Washington, 1890.

GAUTIER, L. *Les Musiques Bizarres à l'Exposition de 1900.* Paris, 1900.

Geographical Society of Philadelphia, Bulletin of the. 1901.

GESTEL, J. THEODORE VAN. *Among the Dyaks.* (In The Cosmopolitan, vol. 26, New York, 1898.)

GILBERT, HENRY F. *North American Indian Music.* (In Harvard Musical Review, vol. 1, No. 6, Cambridge, Mass., 1913.)

GILDER, ROBERT F. *Excavations of Earth-Lodge Ruins in Eastern Nebraska.* In American Anthropologist, n. s., vol. 11, 1909.)

GILMAN, BENJ. IVES. *Zuni Melodies.* (In Journal of American Ethnology and Archaeology, vol. 1, part 2, Boston, 1891.)

Hopi Songs. (In idem, vol. 5, 1908.)

Globus. Illustrierte Zeitschrift, für Länder, und Völkerkunde. Braunschweig.

GODDARD, PLINY EARLE. *Life and Culture of the Hupa.* (In University of California Publications in American Archaeology and Ethnology, vol. 1. Berkeley, 1903-1904.)

GOMES, EDWIN H. *Seventeen Years Among the Sea Dyaks of Borneo.* London, 1911.

GRAEBNER, FRITZ. *Holztrommeln des Ramudistriktes auf Neu-Guinea.* (In Globus, vol. 82, No. 19, 1902.)

GRINNELL, GEORGE BIRD. *The Pawnee Hero Stories and Folk-Tales.* New York, 1889.
The North American Indian of To-day. London, 1900.
The Messiah Superstition: an account of the northern Cheyennes concerning the Messiah superstition; The Young Dog's Dance. (In Journal of American Folk-Lore, vol. 4, 1891.) *Early Blackfoot History.* (In American Anthropologist, vol. 5, 1892.) *The Butterfly and the Spider among the Blackfeet.* (In idem, n. s., vol. 1, 1899.) *The Lodges of the Blackfeet.* (In idem, vol. 3, 1901.) *The Sun Dance of the Plains Indians: Blackfeet, Sioux, Cheyennes, Arapahoes.* (In idem, vol. 4, 1902.) *Notes on some Cheyenne Songs.* (In idem, vol. 5, 1903.)
GRONEMAN, J., AND J. P. N. LAND. *De Gamelan te Jogjakarta; voorrede over onze kennis der javaansche muziek. Akademie van wetenschappen. Afdeeling letterkunde. Verhandelingen.* (1832-1834.) Reprinted from Amsterdam, 1890.
GUEVARA. *Historia de la Civilizacion de Araucania.* (In Anales de la Universidad de Chile, vol. 104, 1899.)
GUINNARD, A. *Three Years' Slavery among the Patagonians.* London, 1871.
GUINNESS, GERALDINE. *Peru, its Story, People, and Religion.* London, 1909.
HABEL, S. *The Sculptures of Santa Lucia Cosumalwhuapa in Guatemala.* (In Smithsonian Contributions to Knowledge, vol. 22. Washington, 1880.)
HAGER, STANSBURY. *Micmac Customs and Traditions.* (In American Anthropologist, vol. 8, 1895.)
HALE, HORATIO. *The Iroquois Sacrifice of the White Dog.* (In American Antiquarian, vol. 7, 1885.)
Huron Folk-Lore. (In Journal of American Folk-Lore, vol. 4, 1891.)
HALE, P. *North American Indian Music.* (In Boston Symphony Orchestra Programmes, Boston, 1912-1913.)
HAMMERICH, ANGUL. *Beskrivende Illustreret Katalog, Musikhistorisk Museum.* Copenhagen, 1909.
HAMY, E. T. *Galerie Américaine du Musée d'Ethnographie du Trocadéro.* Paris, 1897.
Étude sur les Collections Américaines réunies à Gênes à l'occasion du IV^e Centenaire de la Découverte de l'Amérique. (In Journal de la Société des Américanistes de Paris, 1895-1896.)
HARIOT, THOMAS. *A Brief and True Report of the New Found Land of Virginia.* A Reproduction of the edition printed at Frankfort in 1590. Edited by W. Harry Rylands, Manchester, 1888.
Harper's Magazine. New York, 1906.
HARRINGTON, M. R. *Vestiges of Material Culture among the Canadian Delawares.* (In American Anthropologist, n. s., vol. 10, 1908.)
Some Customs of the Delaware Indians. (In The Museum Journal, University of Pennsylvania, vol. 1, No. 3, 1910.)
The Devil Dance of the Apaches. (In idem, vol. 3, No. 1, 1912.)
HARVEY, HENRY. *History of the Shawnee Indians from the year 1681-1854 inclusive.* Cincinnati, 1855.
HAWLEY, E. H. *Distribution of the Notched Rattle.* (In American Anthropologist, vol. 11, 1898.) *An Inverted Reed.* (In idem, n. s., vol. 1, 1899.)
HAWTREY, SEYMOUR H. C. *The Lengua Indians of the Paraguayan Chaco.* (In the Journal of the Anthropological Institute of Great Britain and Ireland, vol. 31, n. s. 4, London, 1901.)

Hemenway Southwestern Archaeological Expedition. (In Journal of American Ethnology and Archaeology, Boston, 1891-1908.)

HENNING, C. H. *Die Onondaga-Indianer des Staates New York.* (In Globus, vol. 76, Nos. 13, 14, 1899.)

HEWITT, J. N. B. *Legend of the Founding of the Iroquois League.* (In American Anthropologist, vol. 5, 1892.) *Era of the Formation of the Historic League of the Iroquois.* (In idem, vol. 7, 1894.)

HILL, S. S. *Travels in Peru and Mexico.* London, 1860.

HIRN, YRJÖ. *Skildringer ur Pueblofolkens knostlif. Meddelanden af Georgrefiska Foreningen 1.* Finland. Helsingsfors, 1900-1903.

Historical Collections of Louisiana. New York, 1846.

HODGE, FREDERICK WEBB. *A Zuni Foot Race.* (In American Anthropologist, vol. 3, 1890.) *The Early Navajo and Apache.* (In idem, vol. 8, 1895.) *Pueblo Snake Ceremonials. Pueblo Indian Clans.* (In idem, vol. 9, 1896.)

Die Erforschung der verzauberten Mesa. (La Mesa encantada.) (In Globus, vol. 75, No. 10, 1899.)

Handbook of the American Indians North of Mexico. (In Bureau of American Ethnology, Bulletin 30, Washington, 1907-1910.)

HÖFER, J. *Die Musik der Naturvölker.* (In Globus, vol. 65, 1894.)

HOFFMAN, WALTER JAMES. *Pictography and Shamanistic Rites of the Ojibwa.* (In American Anthropologist, vol. 1, 1888.) *Ojibwa Folk-Lore.* (In idem, vol. 2, 1889.) *Mythology of the Menomini Indians.* (In idem, vol. 3, 1890; also in Fourteenth Annual Report Bureau of Ethnology, 1892-1893, part 1, Washington, 1896.)

The Midewiwin or "Grand Medicine Society" of the Ojibway. (In Seventh Annual Report Bureau of Ethnology. 1885-1886, Washington, 1891.)

The Graphic Art of the Eskimos. (In Annual Report Smithsonian Institution, 1895, Washington, 1897.)

HOLMES, WILLIAM H. *Art in Shell of the Ancient Americans.* (In Second Annual Report Bureau of Ethnology, 1880-1881, Washington, 1883.) *Ancient Pottery of the Mississippi Valley; Pottery of the Ancient Pueblos.* (In idem, Fourth Annual Report, 1882-1883, Washington, 1886.) *Aboriginal Pottery of the Eastern United States.* (In idem, Twentieth Annual Report, 1898-1899, Washington, 1903.)

HORNBOSTEL, ERICH M. VON. *Über einige Panpfeifen aus Nordwestbrasilien.* (In Zwei Jahre unter den Indianern. See Koch-Grünberg.)

HOSE, CHARLES, AND WILLIAM MCDOUGALL. *The Pagan Tribes of Borneo.* London, 1912.

HOUGH, WALTER. *The Ancient Central and South American Pottery in the Columbian Historical Exposition at Madrid in 1892.* From the Report of the Madrid Commission, 1892. Washington, 1895. *The Hopi in Relation to their Plant Environment; Music of the Hopi Flute Ceremonial.* (In American Anthropologist, vol. 10, 1897.)

The Moki Snake Dance. Chicago, 1898.

A Collection of Hopi Ceremonial Pigments. (In Annual Report Smithsonian Institution, 1900, Washington, 1902.)

HRDLICKA, ALES. *Cora Dances.* (In American Anthropologist, n. s., vol. 6, 1904.) *Notes on the San Carlos Apache.* (In idem, vol. 7, 1905.) *Notes on the Pima of Arizona.* (In idem, vol. 8, 1906.)

HUMFREVILLE, J. LEE. *Twenty Years among our Hostile Indians.* New York, 1903.

IM THURN, REV. EVERARD FERD. *Among the Indians of Guiana.* London, 1883.
Games of the Red Men of Guiana. (In Folk-Lore, vol. 12, London, 1901.)
Internationales Archiv für Ethnographie. Leiden, 1897.
Iroquois Songs, Phonographic Records of. (In American Antiquarian, vol. 27, 1905.)
IRVING, J. T. *Indian Sketches.* London, 1835.
IVES, JOSEPH. *Report upon the Colorado River of the West.* Government Printing Office, Washington, 1861.

JAMES, GEORGE WHARTON, *The Indians of the Painted Desert Region: Hopis, Navahoes, Wallapais, Havasupais.* Boston, 1903.
Jesup North Pacific Expedition. Anthropological Papers, Publication of the American Museum of Natural History, New York.
JETTÉ, J. *On the Medicine Men of the Ten'a in Poy.* (In Journal of the Royal Anthropological Institute of Great Britain and Ireland, vol. 37, London, 1907.)
JOEST, WILHELM. *Malayische Lieder und Tanz.* (In Internationales Archiv für Ethnographie, vol. 5, Leiden, 1892.) *Ethnographisches und Verwandtes aus Guayana.* (In idem. Supplement to vol. 5, 1893.)
JONES, CHARLES COLCOCK. *Antiquities of the Southern Indians.* New York, 1873.
Negro Myths from the Georgia Coast. Boston, 1888.
JOUTEL, M. T. *Historical Journal of Monsieur de la Salle's Last Voyage.* (In Historical Collections of Louisiana, vol. 1, New York, 1846.)

KINNAMAN, J. O. *Chippewa Legends.* (In American Antiquarian, vol. 32, 1910.)
KLETT, FRANCIS. *The Cachina:* A dance at the Pueblo of Zuni. (In Report upon the Geographical Surveys west of the 100th meridian, vol. 7, Washington, 1879.)
KOCH-GRÜNBERG, THEODOR. *Zwei Jahre unter den Indianern.* Berlin, 1909-1910.
Südamerikanische Felszeichnungen. Berlin. 1907.
Kreuz und quer durch Nordwestbrasilien. (In Globus, vol. 89, 1905, Nos. 11, 20, 24; vol. 90, 1906, Nos. 1, 7, 8, 17, 21, 22, 24.)
KOLLMAN, VON. *Flöten und Pfeifen aus Alt-Mexiko.* (In Adolf Bastian als Festgruss, Berlin, 1896.)
KRAUS, ALEXANDRE, FILS. *Di alcuni Strumenti Musicali della Micronesia e della Melanesia.* Fiesole, 1887. *Catalogo della Collezione Etnografico-Musicale Kraus in Firenze,* 1901.
Appunti sulla musica dei popoli nordici. (In Archivio per l'Antropologia e la Etnologia, vol. 37, Firenze, 1907.)
KRAUSE, FRITZ. *Die Pueblo Indianer. Eine historisch-ethnographische Studie. Abh. der Kaiserl. Leop.-Carol Deut. Akad. d. Naturforscher, Bd. 87. Halle. 1907.*
KREHBIEL, H. E. *Folk-music Studies: Songs of the North American Indians.* (In New York Tribune, Sept. 24, Oct. 1, Oct. 8, 1899; Aug. 31, 1902.)
Kreuz und quer Nordwestbrasilien. (In Globus. vol. 90, 1906.)
Afro-American Folksongs, a Study of Negro Music. (In New York Tribune, 1913.)
KROEBER, A. L. *The Eskimo of Smith Sound.* (In Bulletin American Museum of Natural History, XII, 1899.)

The Decorative Symbolism of the Arapaho. (In American Anthropologist, n. s., vol. 3, 1901.)

The Arapaho Sun Dance. (In Field Columbian Museum Publication No. 75, Anthropological series, vol. 4, 1903.)

The Arapaho Ceremonial Organization. (In Publications of the American Museum of Natural History. Bulletin 18, No. 3, 1905.) *Religion.* (In idem, No. 4, 1907.) *Types of Indian Culture.* (In idem, No. 2, 1904-1907.)

Ethnology of the Gros Ventre. (In Anthropological Papers of the American Museum of Natural History, vol. 1, part 4, 1908.)

The Ceremonial Organization of the Plains Indians of North America. (In Compte rendu du Congrès International des Américanistes, 15. Quebec, 1906-1907.)

LAFITEAU, JOSEPH FRANCIS. *Moeurs des Sauvage Amériquains.* Paris, 1724.

LA FLESCHE, FRANCIS. *Death and Funeral Customs among the Omahas.* (In Journal of American Folk-Lore, vol. 2, 1889.) *The Omaha Buffalo Medicine Men.* (In idem, vol. 3, 1890.)

LAROUSSE, PIERRE. *Grand Dictionnaire Universel du XIX Siècle.* Paris, n. d.

LEHMANN-NITSCHE, ROBERT. *Patagonische Gesänge und Musikbogen.* (In Anthropos, vol. 3, 1908.)

LEJEUNE, PAUL. *Relation du Canada pour l'année 1634.*

LESCARBOT, MARC. *Histoire de la Nouvelle France.* Paris, 1612. Edition Tross. Paris, 1866.

LILLIE, GORDON W. (Pawnee Bill.) *Sacred Dances of the Pawnee.* (In American Antiquarian, vol. 7, 1885.)

LISTA. *Viaje al pais de los Tehuelches.* Buenos Aires, 1879. *Mis esploraciones y descubrimientos en la Patagonia 1877.* Buenos Aires, 1880. *Une raza que desaparece. Los Indios Tehuelches.* Buenos Aires, 1894.

LOEW, OSCAR. *Das westlich der Rocky Mountains gelegene Gebiet der Vereinigten Staaten in volkswirthschaftlicher Beziehung.* (In Zeitschrift der Gesellschaft für Erdkunde, XII, Berlin, 1877.)

Züge aus dem Leben der nordamerikanischen Indianer. (In Zeitschrift für Ethnologie, vol. 9, 1877.)

LOOMIS, H. W. *Lyrics of the Red Man.* Newton Centre, Mass. 1903.

LOUBAT, J. F. *Letra de la "Danza de Pluma" de Moctezuma y Hernan Cortés con los capitanes y reyes que intervinieron en la conquista de Mexico.* (In Compte rendu du Congrès International des Américanistes, 12. Paris, 1900.)

LOWIE, ROBERT H. *The Northern Shoshone.* (In Anthropological Papers of the American Museum of Natural History, vol. 2, part 2, New York, 1909.) *The Assiniboine.* (In idem, vol. 4, part 1, 1909.)

LUMHOLTZ, CARL S. *Among Cannibals. Four Years' Travel in Australia.* New York, 1889. *The Huichol Indians of Mexico.* (In Extra Bulletin of the American Museum of Natural History, vol. 10, New York, 1898.)

Symbolism of the Huichol Indians. (In Memoirs of the American Museum of Natural History, vol. 3, Anthropology, part 1, New York, 1900.) *Unknown Mexico.* New York, 1902. *Decorative Art of the Huichol Indians.* (In American Museum of Natural History. Memoirs, vol. 3, part 3, New York, 1904.)

The Meaning of the Head-Plume Tawiakami used by the Huichol Indians. (In Boas Anniversary Volume, New York, 1906.)

New Trails in Mexico. New York, 1912.

LUMMIS, CHARLES F. *The Mission Indians.* (In The Outlook, vol. 74, p. 738, New York, 1903.)

LYND, JAMES W. *The History of the Dakotas.* (In Collections of the Minnesota Historical Society, vol. 2, St. Paul, 1860-1889.)

MACCAULEY, CLAY. *Seminole Indians of Florida.* (In Fifth Annual Report Bureau of Ethnology, 1883-1884, Washington, 1887.)

MCCLINTOCK, WALTER. *The Old North Trail, or Life, Legends, and Religion of the Blackfeet Indians.* London, 1910.

MACCURDY, GEORGE GRANT. *The Armadillo in the Ancient Art of Chiriqui.* (In Compte rendu du Congrès International des Américanistes, 15, Quebec, 1906-1907.)

MCGEE. W. J. *The Siouan Indians.* (In Fifteenth Annual Report Bureau of Ethnology, 1893-1894, Washington, 1897.)

Ponka Feather Symbolism; Ojibwa Feather Symbolism. (In American Anthropologist, vol. 11, 1898.)

MCKENZIE, A. S. *The Yaqui of Mexico.* (In American Anthropologist, vol. 2, 1889.)

MCLEAN, REV. JOHN. *The Blackfoot Sun Dance.* Toronto, 1889.

Blackfoot Indian Legends. (In Journal of American Folk-Lore, vol. 3, 1890.)

MAHILLON, VICTOR CHARLES. *Catalogue Descriptif et Analytique du Musée Instrumental (historique et technique) du Conservatoire Royal de Musique de Bruxelles.* Gand, 1893-1912.

MALLERY, GARRICK. *On the Pictographs of the North American Indians.* (In Fourth Annual Report Bureau of Ethnology, 1882-1883, Washington, 1886.)

Picture-Writing of the American Indians. (In idem, Tenth Annual Report, 1888-1889, Washington, 1893.)

MARKHAM, SIR CLEMENTS. *History of Peru.* Chicago, 1892.

The Incas of Peru. London, 1910.

MASON, OTIS T. *Music in Honduras.* (In American Anthropologist, vol. 2, 1889.)

Papers relating to Anthropology: The Ray Collection from Hupa Reservation. (In Annual Report Smithsonian Institution, 1886, part 1, Washington, 1889.)

Geographical Distribution of the Musical Bow. (In American Anthropologist, vol. 10, 1897. Idem., vol. 11, 1898.)

Linguistic Families of Mexico. (In American Anthropologist, n. s., vol. 2, 1900.)

The Origin of Inventions, London, 1895.

Woman's Share in Primitive Culture. New York, 1894.

Basket-work of the North American Aborigines. (In U. S. National Museum Report, 1884. Washington, 1885.)

MATTHEWS, DR. WASHINGTON. *Ethnography and Philology of the Hidatsa Indians.* (In United States Geological and Geographical Survey, Miscellaneous Publications No. 7. Department of the Interior, Washington, 1877.)

A Part of the Navajo's Mythology. (In American Antiquarian, vol. 5, 1883.) *Two Mandan Chiefs.* (In idem, vol. 10, 1888.)

The Mountain Chant: A Navajo Ceremony. (In Fifth Annual Report Bureau of Ethnology, 1883-1884, Washington, 1887.)

Navajo Gambling Songs. (In American Anthropologist, vol. 2, 1889.) *The Basket Drum.* (In idem, vol. 7, 1894.)

The Gentile System of the Navajo Indians. (In Journal of American

Folk-Lore, vol. 3, 1890.) *Songs of Sequence of the Navajos.* (In idem, vol. 7, 1894.)

The Night Chant. (In Memoirs of the American Museum of Natural History, Anthropology, vol. 6, New York, 1902.)

MEAD, CHARLES W. *Musical Instruments of the Incas.* (In Supplement to the American Museum Journal, July, 1903. American Museum of Natural History, New York.)

MEDINA, JOSÉ TORIBIO. *Los aborijenes de Chile.* Santiago, 1882.

Memoirs of the American Folk-Lore Society. Lancaster, Pa.

MERRIAM, C. HART. *The Dawn of the World.* Cleveland, 1910.

MILLER, H. M. *Manners and Customs of the People of Southern Borneo.* (In Bulletin of the Geographical Society of Philadelphia, vol. 3, Philadelphia, 1901.)

MINDELEFF, COSMOS. *An Indian Dance.* (In Science, vol. 7, 1886.)

Navajo Houses. (In Seventeenth Annual Report Bureau of Ethnology, part 2, 1895-1896, Washington, 1898.)

Mission Scientifique. Paris, 1908.

MÖLLHAUSEN, BALDUIN. *Reisen in die Felsengebirge Nordamerikas bis zum Hoch-Plateau von Neu-Mexico,* Leipzig, 1861.

MONSON, FRED. *Pueblos of the Painted Desert: How the Hopi build their community dwellings on the cliffs; Folk of the Desert; Festivals of the Hopi.* (In Craftsman, vol. 12, New York, 1907.)

MONTGOMERY, HENRY. *Prehistoric Man in Manitoba and Saskatchewan.* (In American Anthropologist, n. s., vol. 10, 1908.)

MOONEY, JAMES. *The Cherokee Ball Play; The Cosumnes Tribes of California.* (In American Anthropologist, vol. 3, 1890.) *A Kiowa Mescal Rattle.* (In idem, vol. 5, 1892.)

The Messiah Religion and Ghost Dance. (In American Association for the Advancement of Science, vol. 40, 1891. Salem, 1892.)

Sacred Formulas of the Cherokees. (In Seventh Annual Report Bureau of Ethnology, 1885-1886, Washington, 1891.)

The Ghost Dance Religion; Sioux Songs; Kiowa and Kiowa Apache; Caddo. (In idem, Fourteenth Annual Report, 1892-1893, part 2, Washington, 1896.)

Calendar History of the Kiowa Indians; Sun Dance. (In idem, Seventeenth Annual Report, 1895-1896, part 1, Washington, 1898.)

Myths of the Cherokee. (In idem, Nineteenth Annual Report, 1897-1898, Washington, 1900.)

The Cheyenne Indians. (In American Anthropological Association Memoirs, Lancaster, 1907.)

MOOREHEAD, WARREN K. *The Indian Messiah and the Ghost Dance.* (In American Antiquarian, vol. 13, 1891.)

MORELET, A. *Voyage dans l'Amérique Centrale.* Paris, 1857.

MORENO. *Viaje á la Patagonia Austral, emprendido bajo los auspicios del Gobierno Nacional 1876-1877,* vol. 1. Buenos Aires, 1879.

MORGAN, LEWIS HENRY. *League of the Ho-dé-no-sau-nee or Iroquois.* Rochester, 1851. New York, 1904.

MORTIMER, W. GOLDEN. *Peru: History of Coca, "The divine plant of the Incas."* New York, 1901.

MURDOCH, JOHN. *Ethnological Results of the Point Barrow Expedition.* (In Ninth Annual Report Bureau of Ethnology, 1887-1888. Washington, 1892.)

MUSIC LOVERS CALENDAR, vol. 2, 1906. Published under the auspices of the College of Music, Urbana, Ill.

Musical Association, Proceedings of. London, 1902-1903.

Musical Observer. New York, 1911.
Musician, The. Boston, 1907.
MUSTERS, G. C. *Unter den Patagoniern.* Jena, 1873. *At Home with the Patagonians.* London, 1873.

NARCISO, VICENTE A., UND KARL SAPPER. *Sitten und Gebräuche der Pokonché-Indianer.* (In Compte rendu du Congrès International des Américanistes, 14, Stuttgart, 1904.)
NEILL, REV. E. D. *Dakota Land and Dakota Life.* (In Collections of the Minnesota Historical Society, vol. 1, St. Paul, 1872.)
Life among the Mandans and Gros Ventres Eighty Years Ago. (In American Antiquarian, vol. 6, 1884.)
NELSON, EDWARD WILLIAM. *The Eskimo about Bering Strait.* (In Eighteenth Annual Report Bureau of Ethnology, 1896-1897, part 1, Washington, 1899.)
NEWCOMBE, C. F. *The Haida Indians.* (In Compte rendu du Congrès International des Américanistes, 15, Quebec, 1906-1907.)
NEWMAN, A. K. *On the Musical Notes and Other Features of the Long Maori Trumpet.* (In Transactions and Proceedings of the New Zealand Institute, vol. 38 [n. s., vol. 21] 1905).
NIBLACK, ALBERT P. *The Coast Indians of Southern Alaska and Northern British Columbia.* (In Annual Report Smithsonian Institution, year ending June 30, 1888. Washington, 1890.)
NICHOLAS, FRANCIS C. *Around the Caribbean and across Panama.* Boston and New York, 1903.
NIEUWENHUIS, A. W. *Quer durch Borneo.* Leiden, 1907.
NORDENSKIÖLD, ERLAND FRHR. VON. *Südamerikanische Rauchpfeifer.* (In Globus, vol. 93, 1908.)

OLIVER, ALICE W. *Notes on the Carancahua Indians.* (In Archaeological and Ethnological Papers of the Peabody Museum, Harvard University, vol. 1 (1891). Cambridge, 1888-1904.)
ORBIGNY, ALCIDE DESSALINES D'. *Voyage dans l'Amérique méridionale,* vol. 2. Paris, Strasbourg, 1839-1843.
OSTERMANN, REV. LEOPOLD. *The Navajo Indians of New Mexico and Arizona.* (In Revue Internationale d'Ethnologie. Anthropos. vol. 3, 1908.)

PARKER, ARTHUR C. *Secret Medicine Societies of the Seneca.* (In American Anthropologist, n. s., vol. 11, 1909.)
Peabody Museum, Annual Reports of the, Harvard University, Cambridge, Mass. (Idem, Archaeological and Ethnological Papers of.)
PEESO, F. E. *The Cree Indians.* (In the Museum Journal, University of Pennsylvania, vol. 3, No. 3, 1912.)
PEET, STEPHEN D. *Idols and Portraits; The Medicine Man and Animal Symbols.* (In American Antiquarian, vol. 5, 1883.)
The Growth of Symbolism; Symbolism and the Totem System. (In idem, vol. 7, 1885.) *Animal Worship and Sun Worship in the East and the West compared; The Cross in America.* (In idem, vol. 10, 1888.) *Indian Myths and Effigy Mounds; Geographical Distribution of Monuments.* (In idem, vol. 11, 1889.) *The Snake Clan among the Dakotas.* (In idem, vol. 12, 1890.) *Was the Serpent Symbol Aboriginal?* (In idem, vol. 16, 1894.) *Anthropomorphic Divinities; The Story of the Creation among the American Aborigines.* (In idem, vol. 17, 1895.) *History and Architecture of*

the Tusayans. (In idem, vol. 18, 1896.) *Mythologic Totems.* (In idem, vol. 19, 1897.) *Agriculture among the Pueblos and Cliff-Dwellers; The Cliff-Dwellers and the Wild Tribes.* (In idem, vol. 21, 1899.) *Comparison of the Codices with the Ordinary Pictographs; The Suastika and Fire Worship in America; The Ethnography of Art in America; Races and Religions in America.* (In idem, vol. 26, 1904.) *Secret Societies and Sacred Mysteries.* (In idem, vol. 27, 1905.)

PERROT, NICHOLAS. *Mémoire sur les Moeurs, Coustumes, et Religion des Sauvages de l'Amérique septentrionale.* Leipzig and Paris, 1864.

PERRY, E. W. *The Home of the Hulero.* (In Outing Magazine, Feb., 1894.)

Polynesian Society, Journal of the. Vol. 2, London.

POND, GIDEON H. *Dakota Superstitions; Dakota Gods; Dakota Sun Dance.* (In Collections of the Minnesota Historical Society, vol. 2, St. Paul, 1860-1889.)

Popular Science Monthly. New York, 1882.

POST, CHARLES JOHNSON. *Indian Music of South America.* (In Harper's Magazine, vol. 112, New York, 1906.)

POTHERIE. See Bacqueville.

POWELL, J. WENSLEY. *Indian Linguistic Families of America North of Mexico.* (In Seventh Annual Report Bureau of Ethnology. 1885-1886, Washington, 1891.)

PREUSS (REISEBERICHT I), K. TH. *Der Mitotetanz der Coraindianer.* (In Globus, vol. 90, No. 5, 1906.)

Weiteres über die religiösen Gebraüche der Coraindianer, insbesondere über die Phallophoren des Osterfestes. (In idem, vol. 90, No. 11, 1906.)

Die Hochzeit des Maises und andere Geschichten der Huichol Indianer. (In idem, vol. 91, 1907.)

PRICHARD, J. C. *History of Mankind.* London, 1847.

PUTNAM, F. W., and C. C. WILLOUGHBY. *Symbolism in Ancient American Art.* (In Proceedings of The American Association for the Advancement of Science, vol. 44, Salem, 1896.)

RAFFLES, M. M., AND CRAWFURD, J. *Descriptions Géographique, Historique, et Commerciale de Java et des autres iles de l'Archipel Indien.* Bruxelles, 1824.

RAND, REV. SILAS T. *The Legends of the Micmacs.* (In American Antiquarian, vol. 12, 1890.)

RANNIE, DOUGLAS. *My Adventures among South Sea Cannibals.* Philadelphia, 1912.

RATZEL, FRED. *The History of Mankind.* London, 1896.

RAU, CHARLES. *The Archaeological Collection of the United States National Museum.* (In Smithsonian Contributions to Knowledge, vol. 22, Washington, 1876.)

READ, ANGELO M. *The North American Indian and Music.* (In Musical America, vol. 6, No. 9, New York, 1907.)

REED, VERNER Z. *The Ute Bear Dance.* (In American Anthropologist, vol. 9, 1896.)

REVERE, JOSEPH WARREN. *A Tour of Duty in California.* New York, 1849.

RIGGS, REV. S. R. *Mythology of the Dakotas.* (In American Antiquarian, vol. 5, 1883.)

RINK, H., AND F. BOAS. *Eskimo Tales and Songs.* (In Journal of American Folk-Lore, vol. 2, 1889.)

RIVERO, MARIANO EDUARDO DE, AND JOHN JAMES VON TSCHUDI. *Peruvian Antiquities*. New York, 1853. Translated by Francis L. Hawks.

ROBINSON, MAY, AND WALHOUSE, M. J. *Obeah Worship in East and West Indies*. (In Folk-Lore, vol. 4, 1893.)

RONCAGLI, G. *Da Punta Arenas a Santa Cruz*. Bollettino della Società Geografica Italiana, Ser. 2, vol. 9, 1884.

ROSEN, COUNT ERIC VON. *The Chorotes Indians in the Bolivian Chaco*. (In Compte rendu du Congrès International des Américanistes, 14, Stuttgart, 1904.)

ROTH, HENRY LING. *Natives of Sarawak and British North Borneo*. Preface by Andrew Lang. London, 1896.

Royal Anthropological Institute of Great Britain and Ireland, Publications of. London.

RUSSELL, FRANK. *An Apache Medicine Dance*. (In American Anthropologist, vol. 11, 1898.)

The Pima Indians. (In Twenty-sixth Annual Report Bureau of Ethnology, 1904-1905, Washington, 1908.)

SAFFORD, W. E. *Guam and its People*. (In American Anthropologist, n. s., vol. 4, 1902.)

SAGARD, GABRIEL. *Histoire du Canada, 1615*. Edition Tross. Paris, 1866.

SAHAGUN, LE R. P. FRAY BERNARDINO DE. *Histoire Generale des choses nouvelle-espagne*. Paris, n. d.

SAPIR. *Notes on the Takelma Indians of Southwestern Oregon*. (In American Anthropologist, n. s., vol. 9, 1907.)

SAPPER, CARL. *Das nordliche Mittel-Amerika. Reisen und Studien aus den Jahren, 1888 bis 1895*. Braunschweig, 1897.

Ein Besuch bei den Guatusos in Costarica. (In Globus, vol. 76, No. 22, 1899.)

SAVILLE, M. H. *A Primitive Maya Musical Instrument*. (In American Anthropologist, vol. 10, 1897.) *The Musical Bow in Ancient Mexico*. (In idem, vol. 11, 1898.)

SAVILLE, M. H., ASSISTED BY GEORGE PEPPER. *The Antiquities of Manabi, Ecuador*. The George C. Heye Expedition. Preliminary Report, 1907. Final Report, New York, 1910.

SCHMIDT, DR. MAX. *Indianerstudien in Zentralbrasilien Ergebnisse und ethnologische Ergebnisse einer reise in den Jahren 1900 bis 1901*. Berlin, 1905.

SCHOOLCRAFT, HENRY R. *Notes on the Iroquois*. Albany, 1847. *The American Indians. Their History, Condition and Prospects*. Rochester, 1851. Information respecting the history, condition and prospects of the Indian Tribes of the United States. Philadelphia, 1851.

SELER, ED. *Altmexikanische Knochenrasseln*. (In Globus, vol. 74, No. 6, 1898.) *Mittelamerikanische Musikinstrumente*. (In idem, vol. 76, No. 7, 1899.)

SCHELLONG, O. *Musik und Tanz der Papuas*. (In Globus, vol. 56, No. 6, 1889.)

SKEAT, WILLIAM WALTER, AND CHARLES OTTO BLAGDEN. *Pagan Races of the Malay Peninsula*. London and New York, 1906.

SMART, CHARLES. *Notes on the Tonto Apaches*. (In Annual Report, Smithsonian Institution, 1867, Washington, 1872.)

SMITH, CAPT. JOHN. *His Works. 1608-1631*. Birmingham, England, 1884. *True Travels*. Richmond reprint, 1819.

SMITH, DE COST. *Witchcraft and Demonism of the Modern Iroquois*.

(In Journal of American Folk-Lore, vol. 1, 1888.) *Onondaga Witchcraft.* (In idem, vol. 2, 1889.)

SMITH, ERMINNE C *Myths of the Iroquois.* (In American Antiquarian, vol. 4, 1881-1882.)

Smithsonian Contributions to Knowledge. Washington.

SPECK, F. G. *Notes on Chickasaw Ethnology and Folk-Lore.* (In Journal of American Folk-Lore, vol. 20, 1907.) *Ethnology of the Yuchi Indians.* (In Anthropological Publications of the University of Pennsylvania, vol. 1, 1909.) *Notes on the Mohegan and Niantic Indians.* (In Anthropological Papers of the American Museum of Natural History, vol. 3, New York, 1909.) *Notes on the Material Culture of the Huron.* (In American Anthropologist, n. s., vol. 13, 1911.)

SPEGAZZINI. *Costumbres de los Patagones.* (In Anales de la Sociedad Cientifica Argentina, vol. 17, 1884.)

STEDMAN, J. G. *Narrative of a Five Years' Expedition against the Revolted Negroes of Surinam.* 1813.

SPENCER, BALDWIN, AND GILLEN, F. J. *Across Australia.* London, 1912.

SPROAT, GILBERT MALCOLM. *Scenes and Studies of Native Life.* London, 1868.

SQUIER, E. GEORGE, AND E. H. DAVIS. *Peru: Incidents of Travel and Exploration in the Land of the Incas.* New York, 1877.

Ancient Monuments of the Mississippi Valley. New York, 1848, Smithsonian Publication.

STACY, REID. *Some Zuni Ceremonies and Melodies.* (In Music Lovers Calendar, vol. 2, 1906. Published under the auspices of the College of Music, Urbana, Ill.)

STARR, FREDERICK. *Indians of Southern Mexico.* Chicago, 1899.

Popular Celebrations in Mexico. (In Journal of American Folk-Lore, vol. 9, 1896.)

Notes upon the Ethnology of Southern Mexico. (Reprint from Volume VIII, Proceedings of Davenport Academy of Natural Sciences, Davenport, Iowa. 1900.)

STEELE, JOSEPH BEAL. *Narrative of a Visit to Indian Tribes of the Purus River, Brazil.* (In Annual Report Smithsonian Institution, 1901, Washington, 1903.)

STEINEN, KARL VON DEN. *Unter den Naturvölkern Zentral-Brasiliens.* Berlin, 1894.

STEPHEN, A. M. *Legend of the Origin of the Snake Order of the Moquis as told by an Outsider.* (In Journal of American Folk-Lore, vol. 1, 1888.) *Pigments in Ceremonials of the Hopi.* (In Archaeological International Folk-Lore Association, vol. 1, Chicago, 1898.)

STEVENSON, JAMES. *Illustrated Catalogue of the Collections obtained from the Indians of New Mexico in 1880.* (In Second Annual Report Bureau of Ethnology, 1880-1881, Washington, 1883.) *Illustrated Catalogue of the Collections obtained from Pueblos of New Mexico and Arizona in 1881.* (In idem, Third Annual Report, 1881-1882, Washington, 1884.) *Ceremonial of Hasjelti Dailjis and Mythical Sand Painting of the Navajo Indians.* (In idem, Eighth Annual Report, 1886-1887, Washington, 1891.)

STEVENSON, MRS. TILLY E. *The Religious Life of a Zuni Child.* (In Fifth Annual Report Bureau of Ethnology, 1883-1884, Washington, 1887.) *The Sia.* (In idem, Eleventh Annual Report, 1889-1890, Washington, 1894.)

The Zuni Indians: Their Mythology, Esoteric Fraternities and Ceremonies. (In Twenty-third Annual Report Bureau of Ethnology, 1901-1902, Washington, 1904.)

STOLL, DR. OTTO. *Die Ethnologie der Indianerstämme von Guatemala.* Leiden, 1889. Supplement to Internationales Archiv. für Ethnographie, vol. 1.

STUBEL, A., W. REISS UND B. KOPPEL. *Kultur und Industrie südamerikanischer Völker.* Berlin, 1889.

STUMPF, K. *Lieder der Bellákula-Indianer.* (In Vierteljahrsschrift für Musikwissenschaft, vol. 2, Leipzig, 1886.)

SWAN, JAMES G. *The Indians of Cape Flattery.* (In Smithsonian Contributions to Knowledge, vol. 16, Washington, 1870.)

The Haidah Indians of Queen Charlotte Islands, B. C. (In idem, vol. 21, Washington, 1876.)

SWANTON, JOHN R. *The Haida of Queen Charlotte Islands.* (In Memoirs of the American Museum of Natural History. Anthropology, vol. 8, Jesup North Pacific Expedition, vol. 5, part 1, 1905.)

Types of the Tlingit and Haida Myths. (In American Anthropologist, n. s., vol. 7, 1905.)

Social Conditions, Beliefs, and Linguistic Relationship of the Tlingit Indians. (In Twenty-sixth Annual Report Bureau of Ethnology, 1904-1905, Washington, 1908.)

Indian Tribes of the Lower Mississippi Valley and Adjacent Coast of the Gulf of Mexico. (In Bureau of American Ethnology, Bulletin 43, Washington, 1911.)

TEIT, JAMES. *The Thompson Indians of British Columbia.* (In Memoirs of the American Museum of Natural History, vol. 2. Anthropology.)

The Jesup North Pacific Expedition, vol. 1, part 4, New York, 1900.

The Lillooet Indians. (In idem, vol. 4, part 5, New York, 1906.)

TEN KATE, H. *Geographical Distribution of the Musical Bow.* (In American Anthropologist, vol. 11, 1898.)

The Musical Bow in Formosa. (In American Anthropologist, n. s., vol. 5, 1903.)

THALBITZER, DR. W. *The Heathen Priests of East Greenland (Angakut).* (In Compte rendu du Congrès International des Américanistes 16, Wien, 1908.)

THOMAS, CYRUS, AND SWANTON, JOHN R. *Indian Languages of Mexico and Central America.* (In Bureau of American Ethnology, Bulletin 44, Washington, 1911.)

THOMPSON, GILBERT. *An Indian Dance at Jemez, New Mexico.* (In American Anthropologist, vol. 2, 1889.)

TIERSOT, J. *Musical Ethnography in America.* (In The Musician, vol. 12, No. 2. Boston, 1907.) *La musique chez les peuples indigènes de l'Amérique du Nord.* Paris: Libraire Fischbacher, 1910. Also in Quarterly Magazine, International Musical Society, vol. 11, pt. 2. Leipzig, 1910.

TOZZER, ALFRED M. *A Comparative Study of the Mayas and the Lacandones.* (In Archaeological Institute of America, New York, 1907.)

TROWBRIDGE, ADA WILSON. *Negro Customs and Folk-Stories of Jamaica.* (In Journal of American Folk-Lore, vol. 9, 1896.)

TROYER, CARLOS. *Traditional Songs of the Zunis: 1. The Festin Sun Dance. 2. The Great Rain Dance of the Zunis.* Introduction by Arthur Farwell, Newton Centre, Mass., 1904.

U. S. Ethnology, Annual Reports of the Bureau of. Washington, D. C.

U. S. National Museum, Annual Reports of the Board of Regents of the Smithsonian Institution. Washington, D. C.

U. S. National Museum, Proceedings of. Washington, D. C.

U. S. Smithsonian Institution, Annual Reports of the Board of Regents of the. Washington, D. C.
University of California, Publications of.
University of Pennsylvania, Anthropological Publications of.

VALLENTIN, W. *Ein unerschlossenes Kulturland.* Berlin, 1907.
VAN AALST, J. A. *Chinese Music.* Shanghai, 1884.
VAN PANHUYS, L. C. *Mitteilungen über surinamische Ethnographie und Kolonisationsgeschichte: Trommelsprache; Tätowieren; Zauber- und Heilmittel; Kurze Bemerkungen über Zahlmittel und ein merkwürdiges Buch über das Geistesleben der Indianer.* (In Compte rendu Congrès International des Américanistes 16. Wien, 1908.
VERNEAU, R., AND P. RIVET. *Ministère de l'Instruction publique Mission du Service Géographique de l'Armée. Ethnographie Ancienne de l'Equateur.* Paris, 1912.
VOTH, H. R. *The Oraibi Powamu Ceremony.* (In Field Columbian Museum Publication No. 61, Anthropological Series, vol. 3, Chicago, 1901.) *The Oraibi Summer Snake Ceremony.* (In idem, No. 83, A. S. vol. 3, 1903.) *Traditions of the Hopi.* (In idem, A. S. No. 96, vol. 8, 1905.)

WAFER, LIONEL. *A New Voyage and Description of the Isthmus of America* Reprint from the original edition of 1699. Edited by George Parker Winship.
WAKE, C. STANISLAND. *The Navajo Origin Myth.* (In American Antiquarian, vol. 26, 1904.) *Asiatic Ideas among the American Indians.* (In idem, vol. 27, 1905.) *Mythology of the Plains Indians.* (In idem, vol. 28, 1906.)
WALKER, H. WINFRED. *Wanderings Among South Sea Savages and in Borneo and the Philippines.* London, 1909.
WALLASCHEK, RICHARD. *Primitive Music.* London, 1893.
WARDEN, M. *Recherches sur les Antiquités des Etats Unis de l'Amérique septentrionale.* Paris, 1827.
Washington Academy of Science, Proceedings of.
WEAD, CHARLES KASSON. *The Study of Primitive Music.* (In American Anthropologist, n. s., vol. 2, 1900.)
Contributions to the History of Musical Scales. (In Annual Report Smithsonian Institution, 1900. Washington, 1902.)
WICKERSHAM, JAMES. *The Eskimo Dance House.* (In American Antiquarian, vol. 24, 1902.)
WILLIAMS, REV. THOMAS. *Fiji and the Fijians.* London, 1870.
WILLIAMSON, ROBERT W. *The Mafulu People of British New Guinea.* London, 1912.
WILLOUGHBY, C. C.
An Analysis of the Decorations upon Pottery from the Mississippi Valley. (In Journal of American Folk-Lore, vol. 10, 1897.)
The Virginia Indians in the Seventeenth Century. (In American Anthropologist, n. s., vol. 9, 1907.)
WILLSON, MARCIUS. *American History.* New York, 1856.
WILLSON, MINNIE MOORE. *The Seminoles of Florida.* New York, 1910.
WILSON, THOMAS. *Catalogo de la Colección arqueologica del Museo Nacional.* Madrid, 1892.
Prehistoric Art. (In Annual Report Smithsonian Institution, 1896, Washington, 1898.)
WISSLER, CLARK. *Symbolism in the Decorative Art of the Sioux Indians.*

(In Compte rendu du Congrès International des Américanistes, 13, New York, 1902. Easton, Pa., 1905.)

Decorative Art of the Sioux Indians. (In Bulletin of the American Museum of Natural History, vol. 18, part 3, 1904.)

Field Notes on the Dakota Indians. Collected on Expedition of 1903. (Mss. in Library of the American Museum of Natural History.)

Diffusion of Culture in the Plains of North America. (In Compte rendu du Congrès International des Américanistes, 15, Quebec, 1906-1907.)

Some Protective Designs of the Dakota. (In Anthropological Papers of the American Museum of Natural History, vol. 1, part 2, New York, 1907.)

WISSLER, CLARK, AND D. C. DUVAL. *Mythology of the Blackfoot Indians.* (In Anthropological Papers of the American Museum of Natural History, vol. 2, part 1, New York, 1908.)

Material Culture of the Blackfoot Indians. (In idem, vol. 5, part 1, New York, 1910.)

The Social Life of the Blackfoot Indians. (In idem, vol. 7, part 1, New York, 1911.)

North American Indians of the Plains. Handbook Series, No. 1, American Museum of Natural History. New York, 1912.)

WOOD, REV. J. G. *The Natural History of Man.* 2 volumes. London, 1868-1870.

WOODRUFF, CHARLES E. *Dances of the Hupa Indians.* (In American Anthropologist, vol. 5, 1892.)

WREN, CHRISTOPHER. *Turtle-Shell Rattles and other Implements from Indian Graves at Athens, Pa.,* Wilkesbarre, Pa., 1908.

WHYMPER, FREDERICK. *Travels and Adventure in the Territory of Alaska.* London, 1868. New York, 1869.

YARROW, H. C. *A Further Contribution to the Study of the Mortuary Customs of the North American Indians.* (In First Annual Report Bureau of Ethnology, 1879-1880, Washington, 1881.)

Some Superstitions of the Live Indians. (In American Antiquarian, vol. 4, 1882.)

Zeitschrift für Ethnologie—Organ der Berliner Gesellschaft für Anthropologie Ethnologie und Urgeschichte. Berlin.

INDEX

NUMERICAL INDEX

GIVING THE PAGE ON WHICH THE DESCRIPTION OF ANY INSTRUMENT MAY BE FOUND FROM ITS NUMBER

NO.	PAGE	NO.	PAGE	NO.	PAGE	NO.	PAGE
505	204	589	147	620	158	665	211
551	186	591	147	621	83	666	211
560	131	592	93	622	73	667	92
561	92	593	222	624	101	668	108
562	129	594	222	626	94	669	203
563	195	595	90	627	91	670	184
564	56	596	107	628	147	671	203
565	100	597	173	629	148	672	204
566	55	598	185	630	147	673	221
567	57	599	174	631	142	674	222
568	153	600	107	632	221	675	210
569	174	601	174	633	129	676	210
570	153	602	186	634	174	677	220
571	171	603	175	635	194	678	219
572	86	604	107	636	108	679	80
573	124	605	169	637	194	680	86
574	127	606	169	638	170	681	78
575	124	607	170	639	150	684	222
576	119	608	170	642	209	685	228
577	127	609	170	645	218	686	245
578	127	610	97	646	95	687	211
579	125	611	96	647	95	688	197
580	113	612	98	648	199	689	239
581	97	613	100	657	198	690	228
582	162	614	97	659	222	691	67
584	162	615	96	660	222	692	85
585	221	616	96	661	207	693	85
586	112	617	128	662	193	694	78
587	93	618	83	663	210	695	82
588	131	619	158	664	210	696	128

NO.	PAGE
699	299
600	239
701	239
702	232
703	230
704	240
705	243
706	244
707	243
708	242
709	227
710	241
711	240
712	241
713	226
714	231
715	235
716	228
717	225
718	244
719	245
720	245
721	245
722	244
723	230
724	9
725	9
726	173
727	47
728	6
729	8
730	6
731	7
732	8
733	7
734	3
735	48
736	8
737	35
738	45
739	49
740	49
741	49
742	858
743	32
744	41
745	51
746	71
747	51
748	49
749	49
750	9
751	49
752	9
753	48
754	50
755	40
756	11
757	3
758	3
759	14
760	3
761	34
762	28
763	39
764	39
765	25
766	25
767	29
768	29
769	30
770	30
771	27
772	39
773	28
774	27
775	10
776	10
777	13
778	36
779	37
780	32
781	31
782	33
783	33
784	37
785	37
786	37
787	33
788	37
789	37
790	37
791	37
792	36
793	36
794	36
795	40
796	36
797	41
798	40
799	39
800	40
801	40
802	32
803	32
804	32
805	49
806	20
807	52
808	21
810	20
811	20
812	19
813	20
814	17
815	17
816	17
817	21
818	22
819	16
820	19
821	18
822	18
823	18
824	18
825	15
826	32
827	32
828	32
829	38
830	38
831	38
832	38
833	38
834	38
835	31
836	38
837	38
838	38
839	38
1274	197
1283	155
1284	206
1285	237
1286	237
1287	237
1288	28
1289	41
1290	39
1291	22
1292	16
1306	27
1311	4
1314	211
1315	235
1347	187
1348	188
1351	188
1352	226
1383	8
1385	124
1392	44
1397	43
1398	43
1399	42
1400	44
1401	75
1402	45
1403	42
1404	42
1406	34
1407	34

NO.	PAGE
1408	34
1423	35
1424	78
1425	33
1427	33
1428	34
1429	34
1430	34
1431	31
1432	33
1433	33
1434	35
1435	75
1436	75
1437	224
1438	34
1439	33
1447	206
1453	246
1454	149
1456	100
1457	225
1461	14
1462	12
1463	13
1491	6
1493	44
1494	39
1498	232
1505	233
1506	68
1509	33
1532	245
1541	102
1561	50
1597	226
1618	245
1652	21
1653	22
1654	44
1676	21
1713	238
1714	237
1715	237
1716	238
1717	238
1718	238
1726	41
1727	205
1732	18
1734	30
1735	120
1740	194
1745	66
1746	108
1754	50
1756	168
1823	41
1827	19
1829	50
1830	28
1831	9
1832	28
1833	29
1834	246
1835	42
1836	46
1837	46
1838	16
1839	29
1840	45
1853	223
1939	77
1940	79
1941	70
1942	76
1943	80
1945	199
1946	195
1948	197
1953	204
1954	204
1955	204
1956	24
1957	239
1958	239
1959	237
1960	125
1963	97
1964	167
1965	99
1967	155
1968	155
1969	161
1970	175
1971	176
1972	184
1973	107
1975	117
1976	126
1977	68
1978	111
1979	111
1980	111
1981	112
1982	112
1983	112
1984	112
1985	112
1986	112
1987	112
1988	112
1989	113
1990	27
2021	113
2022	114
2023	116
2024	148
2025	98
2026	142
2043	148
2044	141
2047	204
2049	211
2050	240
2051	239
2052	239
2053	226
2058	118
2059	113
2062	206
2064	196
2065	207
2066	196
2117	238
2119	236
2136	47
2161	97
2224	207
2235	77
2236	87
2237	78
2238	87
2239	80
2240	67
2241	81
2242	67
2243	67
2244	68
2245	78
2246	67
2247	81
2248	86
2249	67
2250	68
2251	71
2252	68
2253	80
2254	79
2255	80
2256	79
2257	85
2258	99
2259	95
2260	100
2262	95
2263	95
2264	97
2265	99
2276	149
2365	17
2376	218

NO.	PAGE
2377	217
2378	198
2379	214
2380	214
2381	219
2382	219
2383	219
2384	219
2385	212
2386	219
2432	209
2495	187
2506	69
2547	219
2548	216
2549	205
2593	84
2594	79
2595	70
2596	68
2597	72
2598	66
2599	71
2600	71
2602	85
2605	51
2606	24
2607	26
2608	25
2609	25
2610	25
2611	25
2612	24
2613	25
2614	25
2615	25
2616	23
2617	26
2619	84
2620	203
2621	99
2623	96
2628	132
2629	127
2630	116
2631	106
2632	212
2636	50
2673	45
2674	23
2675	131
2676	186
2677	186
2678	72
2679	68
2680	76
2681	70
2682	72
2683	66
2684	71
2685	66
2686	81
2687	215
2688	215
2689	214
2690	215
2691	215
2693	223
2696	242
2697	242
2698	241
2699	241
2732	100
2733	107
2734	108
2735	168
2736	170
2737	152
2738	16
2756	117
2757	120
2758	223
2759	170
2760	113
2767	187
2771	176
2772	179
2773	198
2774	200
2775	200
2777	68
2778	69
2779	75
2780	71
2781	91
2782	102
2783	70
2787	218
2788	223
2789	223
2790	223
2791	223
2792	166
2793	151
2794	160
2795	132
2802	147
2811	119
2814	212
2815	212
2820	186
2821	187
2822	142
2842	105
2847	220
2848	213
2851	186
2852	188
2853	188
2856	148
2860	225
2881	194
2884	74
2886	217
2887	186
2889	124
2890	92
2891	74
2924	107
2925	108
2944	139
2950	208
2962	23
3117	228
3118	124
3119	123
3120	147
3121	180
3122	120
3123	57
3134	14
3142	135
3143	210
3147	184
3149	141
3168	214
3169	219
3170	215
3174	145
3175	152
3176	151
3177	138
3178	138
3179	179
3180	126
3181	123
3248	175
3249	175
3250	104
3251	116
3257	83
3258	76
3259	83
3260	81
3261	70
3262	76
3263	76
3264	76
3266	71
3267	71
3268	76
3295	187

NO.	PAGE
3296	185
3297	118
3298	127
3299	78
3300	198
3301	201
3302	199
3303	207
3304	198
3305	204
3306	204
3307	207
3308	197
3309	199
3310	206
3311	205
3312	206
3314	120
3315	201
3316	193
3317	193
3318	195
3326	129
3327	208
3328	208
3329	208
3330	208
3332	198
3333	198
3341	171
3342	171
3343	172
3344	101
3345	108
3346	139
3361	232
3362	231
3363	227
3370	14
3371	126
3372	180
3380	216
3381	214
3382	214
3384	216
3386	216
3387	217
3388	217
3394	154
3395	144
3396	87
3399	236
3400	236
3403	154
3406	99
3407	166
3408	121
3412	22
3413	23
3414	23
3415	23
3416	24
3418	26
3419	26
3420	24
3421	26
3422	26
3423	239
3424	236
3425	236
3426	240
3427	240
3428	239
3429	241
3430	236
3431	235
3432	235
3433	235
3434	239
3442	91
3443	91
3444	91
3460	206
3461	209
3462	209
3463	206
3464	205
3465	206
3466	205
3467	205
3468	206
3469	201
3470	201
3471	200
3472	197
3473	201
3474	197
3475	196
3476	196
3477	197
3478	197
3483	217
3484	217
3485	217
3486	215
3487	215
3491	149
3492	152
3511	246
3519	217
3521	119
3524	244
3534	141
3535	159
3536	160
3537	167
3538	160
3539	157
3540	155
3541	126
3542	217
3543	216
3544	216
3545	217
3547	187
3554	218
3555	214
3556	215
3557	216
3558	214
3559	214
3560	226
3572	10
3573	11
3574	11
3575	11
3584	121
3585	21
3586	21
3587	21
3588	21
3590	229
3591	228
3592	227
3593	228
3594	233
3597	172
3598	124
3604	218
3605	218
3606	218
3607	218
3608	218
3609	218
3610	214
3615	141
3620	203
3621	246
3622	13
3623	13
3625	30
3626	141
3627	42
3650	22
3655	171
3657	26
3665	237
3666	113
3667	162
3668	128
3675	116

INDEX

ABNAKI TRIBE, 162
Acocotl, 63
Acorn Lipper, 175
Ade aghal, 154
Adidlol, 120
Adok, 15
Aeolian Harp, 243
Africa
  Stringed Instruments, 16, 243
  Wind Instruments, 109
  Vibrating Membranes, 138
  Sonorous Substances, 184, 168, 179, 243
A-ga-sbak, 94
Aghal aghal, 154
Agong, 24
Aht Tribe, 81
Ah-yah (*Ai-ya*), 169, 170
Akhal aghal, 154
Akheshga aghal, 154
Algonquian Family
  Wind Instruments, 109–111, 113, 114, 115, 116, 117, 128
  Vibrating Membranes, 129, 141, 142, 145, 146, 149, 151, 152
  Sonorous Substances, 101, 157, 162, 167, 168, 172, 173, 180
Alibamu tribe, 128
Al-te-qua-bi, 158
Ambnuba, 231
American Folk Instruments, 185–188
Angklang, XV, 10, 11
Angklung. *See Angklang*, 12
Angkoeng. *See Angklang*, 12
Antara, 234
Apachè, 264
Apache Tribe, 88, 105–109, 120, 123, 124, 126, 127, 138, 141, 149, 151, 154, 155, 176, 177
A-pagola, XVII
Aping, XVI, 21
Arapaho Tribe, 101, 109, 129, 136, 162, 180
Arca, 240
Arghoul, 235
Armadillo Guitar, 194
Arpa, 28, 29, 260
Asa'beltgaẓbi, 135
Asa'dad'estl'o, 135
Asia
  Stringed Instruments, 16
  Wind Instruments, 8, 18, 19, 40, 48, 60, 85, 109, 225
  Vibrating Membranes, 138
  Sonorous Substances 35, 181, 184, 231
A-tchi-a-kwe-a-wa tchi-mon-ne, 166
Athapascan Family
  Stringed Instruments, 105–109
  Wind Instruments, 109, 120, 123, 124, 126, 127
  Vibrating Membranes, 129, 132, 135, 138, 139, 141, 144, 145, 149, 151, 154, 155
  Sonorous Substances, 101, 176, 177, 179
Atidir, 46
Atsa'ẓol, 86
A-wuvu, 48
Axacaxtli, 203
Ayacachtli, 189, 191, 213
Ayani aghal, 154
Ayarichic, 234, 235
Aztecs, 62, 63, 196, 199

BABALING, 46
Baghal, 154
Bagpipe, 79

Balalaika, 56
Bandoline, 194
Bandore, 185
Banduria, 23, 24
Bangsi, 8, 15
Banjo, 185, 186, 187
Banjore, 185
Bannock Tribe, 176
Barimbo, 26
Basket Drum, 132
Baton. 102
Bear Totem, 69
Bebaling, 46
Bedoeg, 10
Beet'sos, 86
Bellabella Tribe, 82, 87
Bells
  Bolivia, 241
  Borneo, 21
  Java, 13
  Mexico, 204, 205, 207, 208, 209
  Peru, 239, 240
  Philippine Islands, 26
Benong, 5
Benta, 263
Berbaling, 46
Bereck bab, 131
Bibe-gwon, 125
Bibo, 30
Biola, XVI, 14
Bismarck Archipelago
  Stringed Instruments, 42
  Wind Instruments, 42
  Vibrating Membranes, 44
  Sonorous Substances, 44
Bitci, 122
Blackfeet Tribe, 142, 169
Blikan, XVI, 16
Bolivia
  Stringed Instruments, 240
  Wind Instruments, 240
  Sonorous Substances, 241
Bomba, 241
Bonang, 5
  Baroeng, 13
  Penemboeng, 13
  Peneroes, 13
Bone Clappers, 188
Bone Whistles, 86, 109, 110, 111, 112, 113, 116, 124, 214, 227, 276
Bora, 46, 178
Borneo
  Stringed Instruments, 15
  Wind Instruments, 18
  Vibrating Membranes, 20
Borneo
  Sonorous Substances, 21
Box Drum, 102
Brazil
  Stringed Instruments, 242
  Wind Instruments, 244
  Vibrating Membranes, 246
  Sonorous Substances, 246
Breath Feather, 115
Bribbun, 45
British Guiana
  Wind Instruments, 227
  Vibrating Membranes, 229
  Sonorous Substances, 230
Buebalabala, 38
Bull-roarer
  Africa, 178
  America, 122, 176, 178, 179, 180, 276, 281
  Australia, 45, 178
  Greece, 178
  New Guinea, 30
  New Zealand, 178
  Sumatra, 15
Bumbum, 263
Buncacan, 30
Buzzer, 180

Cacha, 221
Cacho, 213
Caddoan Family
  Vibrating Membranes, 139
  Sonorous Substances, 165
Caja, 240
Calliope, 187
Camalpa, 194, 260
Caracasba, 245
Caracol, 202
Caramba, 264
Carimba, 213, 264
Cecoq, 94, 97
Celebes, 22
Central America
  Costa Rica, 212
  Guatemala, 210
  Honduras, 211
  Nicaragua, 212
Ceremonials. *See* Dances
Chaco Indians, 246
Chanares, 233
Chan-caa go-okowan, 130
Chan-changa-wipoya-s'a, 130
Chan-changa-zuga, 130
Charra, 184
Chaurara, 235

Chayna, 63, 233
Charango, 244
Chau-i-ya-jung-uk, 94
Chau-i-yuk, 91
Cha-yakh (*r*), 91
Chegab-skab-bdab, 150, 173
Chelempung, XV, 4, 5
Cheyenne Tribe, 114, 153, 169, 271
Chilchil, 213
Chhilchiles, 233
Chichicouas, 136
Chichigouane, 161
Chichikoue, 161
Chichiquois, 161
Chile, 241
Chimmesyan Family, XIX, 56, 65, 94
  Sonorous Substances, 96–99
Chinookan Family, 161
Chippewa (or Ojibwa) Tribe, 125, 141, 142, 145, 146, 151, 152, 167, 168, 172
Chirimia, 182, 192, 225
Chirimova, 213
Chirula, 266
Cholo-Quechua Indians, 233
Chon-che-a-ha, 131
Chorote Indians, 137
Chotonka, 61
Chotonka-chanta-ki-yapi, 127
Chul, 213
Churinga, 46
Churu, 235
Cici'gwan, 149, 151
Cither, 243
Cittern, 55
Clallam Tribe, 102, 145
Clappers, XX, 22, 29, 94, 188, 239
Claracarsha, 184
Clarinet, 84
Classification, 58, 249
Cliff Dwellers, 177
Coc, 211
Cocoloctli, 189
Cocopa Tribe, 166
Cocoon Rattle, 175
Colo, 264
Colombia
  Wind Instruments, 225
  Sonorous Substances, 226
Comanche Tribe, 88, 167
Conch-shell Trumpet, XX, 25, 34
Concow Tribe, 117
Cora Tribe, 105, 261, 262
Cornstalk Fiddle, 187
Costa Rica
  Stringed Instruments, 212
  Wind Instruments, 214
  Vibrating Membranes, 219
  Sonorous Substances, 220
Courting Flute, 61
Cornet, XVI
Cowunhegun, 160
Co-ya-tanka, 111
Cqueppa, 237
Creek Tribe, 148
Cuba
  Vibrating Membranes, 221
  Sonorous Substances, 221, 222
Culang, 26
Cup mouthpiece types, 109
Cuyvi, 233

Dalles Tribe, 161
Dances
  Arawak Indians, 232
  Bear, 183
  Buffalo, 140, 158
  Crane, 118
  Crazy, 153
  Crow, 115, 270
  Deer, 134
  Devil, 131
  Dog, 119, 153, 173
  Fire Ceremony, 145
  Flower, 145
  Flute Ceremonial, 179, 279
  Ghost, 88, 115, 143, 180, 269, 270
  Great Feather, 156
  Green Corn, 158
  Mexican, 200, 202
  Micmac, 160
  Northwest Coast, 257
  Pinon, 172
  Snake, 157, 166, 169, 171, 172, 176, 177, 178, 273, 280
  Star, 153
  Sumatra, 15
  Sun, 113, 114, 154, 271
  West Indian, 222
  Wichita, 105
  Woodpecker, 145
  Zuni, 157, 166
Dakota. *See* Siouan
Daraboukkeh, 138
Darubiri, 30
Delaware Tribe, 134, 157
Demong, 5
Dew-claw Rattle, 100, 173

Dilni, 120
Dimuggemuck, 46
Dja sakid, 151
Djekayue'ta, 94
Djimpai, XVI, 16
Djin-kaqueta, 94
Djin-kaxeta, 94
Djoering, 15
Doli, 10
Double-beating reeds, 15, 77
Drums, XVII, XX, 125
American Indians
Northwest Coast, 87–94
United States, 129–149
Bismarck Archipelago, 44, 45
Borneo, 20, 21
Brazil, 246
British Guiana, 229, 230
Costa Rica, 219
Fiji Islands, 41
Guatemala, 210, 211
Java, 9, 10
Mexico, 189, 201, 208
New Caledonia, 40
New Guinea, 28, 29
New Hebrides, 39
New Zealand, 51
Philippine Islands, 26
Sumatra, 15

EBERO, 46
Eeb-na-de, 131, 155
Eeb-tecb-ka, 140
Engkruri, 19, 20
Ensuling, 18
Eskimauan Family, XIX
Stringed Instruments, 56
Vibrating Membranes, 88, 90, 94
Sonorous Substances, 99, 100, 101, 179
Europe
Stringed Instruments, 56, 266
Wind Instruments, 43, 84, 109, 182
Excoletes, 213

FIDDLE, 105, 187
Flageolet, 182
Flöte Cocoloctli, 201
Flute Legend, 279
Flutes and Whistles
American
Indians, Northwest Coast, 66 ff.
Flutes and Whistles
Indians, United States, 109
Bismarck Archipelago, 43
Bolivia, 240
Borneo, 18
Brazil, 244
British Guiana, 227
Celebes, 22
Ceremonial, 110, 179, 279
Chile, 241
Chinese, 18
Colombia, 225
Costa Rica, 214
Courting, 110
Fiji Islands, 41
Guatemala, 210
Human bone, 51
Java, 22
Mystery, 123, 124
New Caledonia, 40
New Guiana, 27
New Hebrides, 36
New Zealand, 50
Nicaragua, 212
Nose, XVII, 7, 18, 40, 48, 50, 51
Peru, 235
Philippine Islands, 24, 26
Sandwich Islands, 48
Solomon Islands, 32, 33, 34
Sumatra, 15
Transverse, 15, 24, 27, 34, 40, 43, 245
Vertical, 18, 22, 32, 33, 36, 37, 120, 123–127, 236, 245
Warbling, 121
Folk Instruments
Stringed Instruments, 185
Wind Instruments, 187
Sonorous Substances, 188
Foon, 48
Fusa, 240

GA-DI-SO-LIU, 104
Gad-sta-wen-drab, 158
Galevu Kauhaumumu, 32
Ngungu, 31
Soniruka, 32
Gama, 29
Gambang, 5
Gambang Gangsa, 4, 14
Kayu, 4, 12, 14
Gambas, 16
Gamelan, 4, 5, 8, 9, 12, 13, 14
Choro Bali, 5

Gamelan
Goedjin, 5
Kodok Ngorek, 4
Manggang, 4
Miring, 5
Pelog, 4, 5, 8, 12, 14
Sakaten, 5
Salendro, 4, 5, 8, 9, 12, 14
Gandang Boeloe, 15
Gandang. See Gendang.
Ga-no-go-o, 141
Ga-no-jo-o 141
Ga-non-gah Gasda-we-sa, 159, 160
Garadap, 17
Garoede, 20
Garoeding, XVI
Garsing, 8
Gasnonk Gasda-we-sa, 160
Gau, 90
Ga-udjau 90-95, 103
Gau Pat Piti, 32
Geba, 6
Gendang, 15, 20
Gender, 5, 14
Barang, 14
Baroeng, 14
Nem, 14
Penemboeng, 14
Peneroes, 14
Genggong-sakai, 30
Ghost-dance, 88, 115, 143, 180, 269, 270
Giriding, 21
Gissang, 8
Gongs
Borneo, 21
Java, 5, 13
Philippine Islands, 26
Solomon Islands, 35
Gore, 36, 37
Got. See Eagle Clan
Gourd Banjo, 185
Gourd Mandoline, XX, 187
Gourd Rattle, 123, 166–170
Gourd Trumpet, 109, 245
Gros Ventres Indians, 173, 180
Guendang, 5
Guiro, XXI, 183, 204, 221, 222
Guitar, XVI, XXI, 23, 47, 57, 193, 212, 243
Gulieng, 18
Gyo, 181

HA-HAI-SHIM, 104, 259, 266
Hab-whoothes, 152
Haida Indians, 56, 65, 68, 69
Wind Instruments, 68–70, 73–76
Sonorous Substances, 94, 97, 98
Hako Ceremony, 166
Half-stopped Pipes, 72, 73, 76
Hamatsa Tribe, 75
Hano, XVIII, 48
Hanska-bugo-kab-bo-kab, 150, 174
Harebab, 6
Harp
Brazil, 242
Central America, 210
Mexico, 193
Philippine Islands, 22, 23
Harpa, 193, 260
Hateikuucan, 180
Hati-ku-tha, 180
Hda-hda-siuta-bada, 150
He-ha-kha-zo-zo, 111, 119
He koauan, 51
Hippocampus, 57
Higun guky, 114
Hna-hna-zo-zo, 119
Hokea, 231
Hokeo, 50
Ho-ko-na-ma-na, 169
Hom, 213
Hoof Rattle, 100, 158, 173, 274
Hool, 263
Hooyeb. See Raven Clan
Hopi or Moki Tribe, 101, 110, 121, 122, 132, 147, 158, 162, 166, 167, 170, 179, 180, 182, 184, 273
Horns
Brazil, 245
New Caledonia, 40
New Guinea, 27
Philippine Islands, 24, 25
Htagano, 94
Huancar, 233, 234
Huancartinya, 234
Huaylla, 233
Huayra-puhura, 233, 236
Huehuetl, 200, 202, 203, 213
Huek'oa, 66
Huichol Tribe, 105, 181, 260
Huitzil, 191, 192
Huitzilopochtli, 201
Hula, XVIII, 49
Hula Drum, 49
Hulabula, 49
Hula ka laau, 49
Hupa Tribe, 144, 145

Iaten, 94, 95
Imiglüti (im-ig-luk-ta), 179
Impai, 17
Inverted double reed, 81
Ippaki-ni, 85
Ira, 240
Iroquoian Family
  Wind Instruments, 109, 126–128
  Vibrating Instruments, 88, 141
  Sonorous Substances, 156–158, 160, 167, 168, 184

Jaina, 63
Jamamamadi Indians, 100
Jaranita, 193, 194
Java
  Stringed Instruments, 3–7
  Wind Instruments, 7–9
  Vibrating Membranes, 9
  Sonorous Substances, 10
Jemez Tribe, 158, 182
Jews' Harp, XVI, XVII
  Borneo, 21, 22
  Bismarck Archipelago, 45
  Fiji Islands, 41
  Java, 14
  New Guinea, 30
  New Zealand, 51
  Philippine Islands, 26
  Solomon Islands, 35
Juco, 213
Juk-jang-go, 231
Jul, 195

Kaba, 28, 29
Kachapi, 3, 4
Kaekeeke, 49
Kab-to-to-hay, 174
Kaigani Tribe, 69
Kai-ye-ye, 175
Ka-ka-a-wen the-la-kwi-we, 158
Ka-ka-a-wen tchi-mon-ne, 166
Kalab, 35
Kalove, 31, 47
Kang tung, 109
Kasapi, 16
Katambong, 21
Katana, 170
Katchawa, 166
Kaur, 36
Kecher, 5
K'el-bitaga'ngo, 97, 98
Keluri, 19
Kelyau, 95
Kelyaut, 93
Kampoel, 5
Kena-kena, 235
Kendang, 5, 9
Kenong, 5
Kentun, 89, 90
Keresan Family
  Wind Instruments, 121
  Sonorous Substances, 101, 167
Kerilong, 15
Kesapi. See Ketjapi
Ketipung, 5
Ketjapi, XV, 3, 4, 10, 15
Kettle-drum, 125, 138, 139
Ketuk, 5
Kezonta-koka, 150
Khore, 36
Ki-gu-i-lu-li-ag-i-ag-ok, 56, 57
Kigulu, 31
Kilaut, 89, 90
Kilowty, 90
Kio-kio, XVIII, 48
Kiowan Family, 88, 164
Kiringbie, 208
Kis-wih-na-k'ia-te-la, 137
Klamath Tribe, 176
Kleddi, 19, 20
Klurai, 19
K'oak'omolakula, 66, 82
Kodili, 30, 106
Kob'lo, 264
K'ojon, 211
Koka cancega, 131
Kol-chai-ak, 101
Kolo, 265
Kolove, XVII
Koluschan Family, XIX, 63, 65
  Stringed Instruments, 55–58
  Wind Instruments, 83
  Vibrating Membranes, 90, 91
Kong chok, 35
Kooll(a), 265
Kos, 66
Ko-ta, 101
Koulin-taugau, 21
Kove, 38
Kowelniss, 231
Krena, 225
Krilaet, 90
Kromo, 5
Kromong, 5
Krummhorn, 79, 109
Kua quatem, 95
Ku-ku-mi-agacb-shun, 66
Kulanapan Family, 104
Kulepa ganet, XVIII, 44

Kumpul, 5
Kut-boi-yeh, 90
Kwakiutl Tribe
Wind Instruments, 65, 72, 74, 75, 87
Vibrating Membranes, 90
Sonorous Substances, 94, 95, 102

LACANDONE TRIBE, 137, 263
Lain-ah, 121
Lakat, 101
La-la-kanti, 132
Lalis, XVII, XVIII, 41, 42
Lateral retreating reeds, 84
Lena-ka-chin-tibu, 122
Lepos-le-qua-be, 158, 170
Li-ba-li-ba-bq, 175
Linguistic Families, 251
Lira, 82
Lunut, 4[illegible]
Lute, XV

MACARONI, 211
Machichiquois, 161
Macuil-xochitl-xochi-pitti, 205
Madwawechegance, 146
Mai, 37
Maidu Tribe, 115, 176, 260
Mai-ya, 137, 202
Makah Tribe, 81, 90
Makkortaa, 88
Mam-ma-lie, 46
Mandan Tribe, 131, 140, 155, 271
Mandoline, 187
Maori Flute, XVIII, 34, 50
Maricopa Tribe, 134
Marimba, 211, 223, 243
Marimbachi, 264
Mariposan Family, 176
Marouvane, XV, XVI, XX,15
Maruga, 183
Maskoki Tribe, 148
Masset Tribe, 85, 86
Mawahellis, 105, 264
Maya Indians, 137, 263
Maza-rhda-rhda-hda-hda, 150, 174
Maza-hda-hda, 150
Mbi-ta-ni-tanga, 40
Medicine Man. *See* Shaman
Meijiwiz, 19, 109, 225
Menatse, 90, 95, 103
Menomini Tribe, 151
Mescal Rattle, 164
Metses, 65, 66
Mexico
Stringed Instruments, 193
Wind Instruments, 195
Vibrating Membranes, 201
Sonorous Substances, 203
Micmac Indians, 128, 149
Mide Ceremony, 146, 151
Midewigan Ceremonial, 146
Mijue Mijue, XVI, 14
Mike, 35
Mirambura, 46
Mission Indians, 100, 109, 111–113
Mitchichigouane, 161
Mitigwakik, 139, 146
Mittigwukeek, 125
M'kul, 208
Miwok Tribe, 176
Mixes, 137
Moki Tribe. *See* Hopi
Moko moko, 15
Moose Call, 128
Mo-sha-yes-ai-ya, 158, 170
Mo-si-li-li, 122, 170
Mouth Organ, 19, 20
Muet, XX, 243
Mu-shi-la, 170
Muskhogean Family
Wind Instruments, 109
Vibrating Membranes, 148
Musical Bow, XVII, XVIII, XX, 258
Brazil, 242, 263, 264
Central America, 212, 264
Formosa, 104
Guatemala, 264
Lencas, Honduras, 263
Mexico, 189, 190, 194, 264
Mosquitia, 264
New Hebrides, 36, 264
Nicaragua, 264
North American Indians, 104, 258
Patagonia, 264
Sandwich Islands, 47, 48
San Salvador, 264
Solomon Islands, 30, 31
South America, 264
Yucatan, 264
Mystery Flute, 111, 123, 124

NACALTQUAUITL, 191
Nafiri, 8
Najojb, 101, 155
Nakaantan, 180
Nambe Tribe, 148

Napo-kashka-ta-sake, 150
Napo-kashka-yu-dhe, 150, 174
Napo-shampidab-hab, 150, 175
Nau'alag, 65
Navaho Tribe, 101, 109, 120, 132, 133, 134, 135, 139, 154, 177, 179
Nei, 60
Neve, 35
Nex-no, 65
Nez Perces, 101
Nguru, 50
Nipagahiman, 152
Nodiwu, 178
Nootka Tribe, 66, 67, 81
Nose Flute
  Fiji Islands, 41
  Java, 7
  Hawaii, 48
  New Caledonia, 40
  New Zealand, 50, 51
Notched-stick Rattle, XXI, 134, 180–185, 189, 203
Nulla nulla, 88
Nushagagmiut Tribe, 93

Oboe, 84
Ogb-tum, 131
Oglala Tribe, 113, 118, 127
Ohe-hano, 48
Ojibwa. *See* Chippewa
Oolalla, 74
Ollita, 213
Omichichauaẓtli, 189, 191
Omaha Tribe, 105, 163
Omitl, 191
Oneida Tribe, 126
Onio-sa-ka-sta-we-sa, 168
Oolomba, 46
Open Pipes, 73, 77
Ophecleide, 84
Orang bukit, 31
Osage Tribe, 161, 171, 273
Oẓee, 40
Oẓomatl, 205

Pa-a-ya, 122, 170, 281
Pachaquatl, 191, 192
Pagola, 31
Paba bula, 231
Pabu, 49
Pa-but-a-saka, 153
Pa Ipu, 50, 231
Paiwari Feasts, 230
Pa-len-a, 122
Paloea, 15
Pam-pu-ni-waṗ, 184
Pandurina, 240
Panpipes, XVI, XVII, XVIII
  Bismarck Archipelago, 42
  New Hebrides, 38
  North America, 187
  Solomon Islands, 31–33
  South America, 240, 241
Papago Tribe, 121, 123, 124, 125
Passamaquoddy Tribe, 156, 157
Patcikyopi, 180, 184
Patola, 3
Patshal. *See* Potlatch
Pattala, 10
Pawnee Tribe, 139, 273
Paẓbuta-saka, 150
Pe-bda-bda, 150
Pen-abh, 231
Penneros, 5
Penobscot Tribe, 162
Pib-be-gwun, 110, 125
Piman Family
  Stringed Instruments, 261, 262
  Wind Instruments, 121, 123–125
  Sonorous Substances, 134, 159, 166, 168
Pincollo, 233, 234
Pipigwon. *See Pib-be-gwun*
Pito, 199, 203, 213, 225
Pochette, 244
Pokonchi, 211
Pomo Tribe, 104, 120
Poo-do-parana, 244
Poo-ma-ka, 90
Poo-min, 90
Poongi, 225
Posuru, 104
Potlatch, 66, 255
Pottery Drum, 135, 136, 138, 222
  Rattle, 171, 205–209, 222
  Trumpet, XXI, 237, 246
  Whistle, 195–203
Psaltery, XV, 3, 4
Pueblo Indians, 105, 147
Puepava, 38
Pu Ili, 49
Pujunan Family (Maidu)
  Stringed Instruments, 105, 260
Pulik, 48
Puniu, 48
Pupu galaga, 31, 33
Pupu boru, 31, 33
Pur-pi-shuk-pi-po-ya, 147
Putorino, XVIII, 50

Putura putura, 34
Pututu, 245
Putu, 32

Qaiyum, 137
Que-goot, 124
Quenaquena, 234
Quena, 234, 240
Quepa, 234
Quetzal-coatl, 206
Quijonga, 212, 213, 264
Quill Rattle, 161
Quiquiztli, 189
Quinque cahue, 266
Quinque caline, 266

Rabeljo, 244
Radoh, 15
Radyok, 104
Ranat, 16
Ratok, 104
Rattles
  Bismarck Archipelago, 44
  Borneo, 21
  Central America, 211, 220
  Mexico, 189, 203–209
  New Hebrides, 39
  North America, 123, 125, 149–184, 188
  South America, 226, 230, 232, 233, 240, 246
  West Indies, 221–223
Raven Clan, 56
Reba, 6
Rebab, XV, 5, 6, 13, 15
Rebat, 6
Rebana, 15
Reed pipes
  Arabia, 19
  Borneo, 19
  China, 15
  Double-beating reeds, 77
  Egypt, 19, 82
  Europe, 79, 84
  Fiji Islands, 41
  India, 15
  Indians, Northwest Coast, 77–87
    United States, 109, 128
  Inverted double reeds, 81
  Lateral retreating reeds, 84
  Mechanically blown, 87
  Retreating reeds, 81, 82, 84
  Ribbon reeds, 86, 109
  Single-beating reeds, 80
Reed pipes
  Terminal retreating reeds, 82
  Twin terminal retreating reeds, 83
Rhombus, 176, 177
Rikua, 159
Rodiung, 22
Rudieng, XVI, 22
Rura, 37

Safé, XVI, 16
Sah-we-goot, 123
Salishan Family, XIX, 145
Salompret, 8
Sam-po-na, 195
Sanja, 240
Sapakwilla, 74
Sapeh, 16
Saron, 5, 12
Saron allete salendro, 12
  demoeng, 12
  demoeng salendro, 12
  peking, 12
  peking salendro, 12
  selento, 12
  tjeloering, 12
Sauks and Fox tribes, 128
Satong, XVI, 15, 16
Schalmei, 43
Selantan, 5
Seneca Societies
  False Face, 160
  Grand Medicine, 167
  Women's, 156
Seneca Tribe, 126, 141, 156, 157, 160, 167
Serdam, 15
Serdum, 8
Sernei, 16
Seroene, 15, 18
Seroendam, 15
Serunai, XVI, 17
Shakee-icha-koka, 150
Shak Shak, 233
Shakuhachi, 60
Shahaptian Family (Nez Perces)
  Sonorous Substances, 101
Sha-quoi-a-ya-ka-ch-na, 170
Shastan Family, 117
Shell Rattle, XVII
Shell Trumpet, 25, 34, 202
She-sha-gwan, 155
She-she-gwun, 125
She-shee-quoi, 150, 155
Shi'shi', 154

Shi sha, 94
Sho, XVI
Shoh-k'on-ne, 121, 122
Shoshonean Family, XIX
Wind Instruments, 111, 113, 121
Vibrating Membranes, 129, 142
Sonorous Substances, 176
Shugh, 161
Shukk-shukk, 161
Sia Tribe, 167
Signal Drum, 10, 42
Silinguit, 18
Single-beating reeds, 80, 109
Siouan Family
Wind Instruments, 109, 113–116, 118–120, 124, 127, 128
Vibrating Membranes, 130, 131, 140, 142, 145, 150, 152, 154, 155
Sonorous Substances, 171, 173, 174
Sisa, 94
Sistrum, 168
Skaga shi-sha, 94, 96
Sk-a'-na, 64, 65
Skidi Pawnee Tribe, 139
Skittagetan Family, XIX
Wind Instruments, 65, 68, 69, 70, 73–82, 84–87
Vibrating Membranes, 90
Sonorous Substances, 94, 97, 98
Sobaipuri Tribe, 121
Social Organizations, 65
Soeling. *See Souling*
Sohe-de-dan, 94, 101
Sona, 15
Sonorous Substances
America
Central America, 62, 210
Costa Rica, 220
Guatemala, 211
Honduras, 211
North America
Eskimo, 99, 100, 101, 179
Folk Instruments, 188
Indians, Northwest Coast, 94-103, 159
Chimmesyan
Tsimshian, 96, 97, 98, 99
Koluschan or Tlingit, 99, 100, 101
Salishan
Clallam, 102
Shuswap, 159
Sonorous Substances
North America
Skittagetan or Haida, 94, 97, 98, 103
Wakashan, 95
Kwakiutl, 95, 99, 102, 103
Nootka, 95, 96, 97, 100
Indians, United States, 155
Algonquian
Abnaki, 162
Arapaho, 101, 162, 180
Chippewa or Ojibwa, 167, 168, 172
Delaware, 157, 160
Passamaquoddy, 156, 157
Athapascan
Apache, 176, 177
Navaho, 101, 177, 179
Caddoan
Pawnee, 165, 166
Chinookan
Dalles, 161
Iroquoian
Cherokee, 158
Seneca, 156, 157, 160, 167, 168
Tonawanda, 156
Keresan, 101
Sia, 167
Kiowan, 164
Moquelumnan
Miwok, 176
Piman, 168
Pujunan
Maidu, 176
Shahaptian
Nez Perces, 101
Shoshonean
Bannock, 176
Comanche, 167
Hopi or Moki, 101, 158, 162, 166, 169, 170, 179, 180, 182, 184
Utes, 177, 183, 184
Siouan, 173, 174, 175
Omaha, 105, 163, 173
Osage, 161, 171
Yankton, 101, 173
Tanoan
Tewa, 171
Yukian, 175
Yuman
Cocopa, 166

Sonorous Substances
North America
Zunian
Zuni, 158, 166, 167, 169, 170, 177
Mexico, 101, 171, 203–209
West Indies
Cuba, 221
Porto Rico, 222, 223
South America
Bolivia, 241
Brazil, 100, 246
British Guiana, 230–233
Colombia, 226
Paraguay, 101
Patagonia, 161
Peru, 239
Venezuela, 226
Oceanica
Australia, 45
Malaysia
Borneo, 21, 22
Java, 10–14
Philippine Islands, 26
Melanesia
Bismarck Archipelago, 44
Fiji Islands, 41, 42
New Guinea, 29, 30
New Hebrides, 39
Solomon Islands, 34, 35
Polynesia
New Zealand, 51
Sandwich Islands, 49
Souling, XV, 5, 7, 8, 18, 22
Soyalanna Drama, 109
Sqa'na. See Sk-a'na
Squana. See Sk-a'na
Srunai. See Serunai
Srunen, 5
Staccados, 12, 13
Stamping Sticks. *See Ambnuba*
Stopped Pipes, 66–72, 74–76
Stringed Instruments
Africa, 16, 243
America, 55, 104
Central America, 210
Costa Rica, 212, 213
Guatemala, 210
Nicaragua, 212
North America
Eskimo, 56
Folk Instruments, 185–187
Indians, Northwest Coast, 55
Stringed Instruments
North America
Koluschan or Tlingit
Yakutat, 55, 56, 57
Indians, United States
Athapascan
Apache, 105–109
Kulanapan or Pomo, 104
Piman
Cora, 261
Huichol, 101, 259, 261, 262
Tepehuane, 261
Pujunan
Maidu, 105, 260, 262
Mexico, 184, 203–209
South America
Brazil, 242
Bolivia, 240
Venezuela, 226
Europe, 56, 266
Oceanica
Malaysia, XV, 3–27
Borneo, 15–18
Java, 3
Philippine Islands, 22, 23, 24
Sumatra, 14
Melanesia, XVI, 27–46
Bismarck Archipelago, 42
New Guinea, 27
New Hebrides, 36
Solomon Islands, 30, 31
Polynesia, XVIII, 47–52
Sandwich Islands, 47
Suling. See Souling
Sun dance, 113, 114, 154, 271
Syrinx, 236

Tabu, 42
Tah'ca, 131
Tahona, 221
Talamanca Indians, 219
Takelma Tribe, 121
Tamborine à cordes, 266
Tanoan Family
Wind Instruments, 121
Sonorous Substances, 171
Tappers, 174
Tarahumara Indians, 171, 283
Tarawangsa, XV, 4, 6, 7, 10
Taro-patch-fiddle, XVIII
Ta-sba-gae, 173

Ta-toyk-pi. See Totoqpi
Tawahegun, 146
Tawito'l, 261
Tayaeyun, 125
Tcha-he-he-lon-ne, 121, 122
Tcu-vitkuna, 171
Tecciẓtli, 189
Tehuelche Indians, 138, 141
Tenchuy, 203
Tepehuaje, 192
Tepehuane Tribe, 261, 262
Teponaẓtli, XX, 189, 191, 192, 202, 208, 213
Te'qatsk, 66
Terminal Reeds, 82, 83
Terricoty, 178
Tetzilacatl, 191
Tewa Tribe, 171
Teweigan, 147
Thle-a-kwi-an-nak'u-tchi-we, 158
Thlin-thlin-no-me, 105, 195, 259, 264
Thunder Bird, 56
Time markers, 29, 46, 49
Tingkahs, 15
Tinne Tribe, 91
Tinya, 233
Tipla, 23, 212, 243
Tirricoty, 46
Ti-tzu, 18
Tjalang, 10
Tjelempoeng. See Chelempung
Tlaloc, 275
Tlalpan-ueuetl, 189
Tlamatotoll, 191, 192
Tlapan-huehuetl, 192
Tlapitzalli, 189
Tlaxixtli, 193
Tlingit. *See* Koluschan
Toltecs, 63
Tonawanda Tribe, 156
Tonkawa Tribe, 152
Topi, 261
Tortoise-shell drum, XXI, 189, 211
Totem, 69, 100
Totoeqpi. See Totoqpi
Totoqpi, 110, 276
To-uxsiget, 65
Towokingpiata, 178, 276
Tozacatl, 192
Twana Tribe, 145
Transverse Flutes, 15, 24, 27, 34, 40, 45
Trawangsa. See Tarawangsa
Tree drum, 39
Trub-kun-pi, 182, 184
Trumpets
  Funeral, XXI, 246
  Gourd, XXI, 109
  Horn, 109
  Human bone, 109
  Peruvian, 237
  Pottery, XXI, 109, 237, 246
  Shell, 202
  Wooden, 109, 228
Tsa-beyikhad, 132
Tsal-eet-quash-to, 110
Tsa yanshtqi, 132
Tsa yasetqi, 132
Tse'ko-ka-la, 65
Ts'e-kokyala, 66
Ts'etsaeqa, 66
Tshan-jak, 56
Tsimshian Tribe, 69
Tsin-ce'nr, 179
Tsooyanchin, 173
Tuang-tuang, 231
Tuba, XVI
Tubri, 225
Tuksi, 158
Tunamo, 261
Tunkul, 202
Tun-tong, 231
Turdum, 45
Turtle-shell Rattles, 101, 123, 155–160, 274
Tuscarora Indians, 131
Tzi-ditindi, 176, 178
Tzilinilli, 205
Tzit-idoatl, 105–108, 138

Ukeke, XVIII, 47, 104, 259
Ukeke laau, 48
Ukulele, XVIII, 47
Uli Uli, 49
Uilacapitzli, 189
Umcunga, 264
U-muk-pi, 110, 123, 179
Uvete, 32, 33
Ute Tribe, 177, 183, 184

Vertical Flute, 18, 22, 32, 33, 34, 36, 37, 120–127, 245
Vibrating Membranes
  Central America
    Costa Rica, 219
    Guatemala, 210
  North America
    Eskimo, 88, 90–94
    Indians, Northwest Coast, 87–94, 159

Vibrating Membranes
North America
Athapascan (Northern)
Tinne, 91
Koluschan or Tlingit, 90
Chilkat, 91
Salishan, 90, 91, 92
Skittagetan or Haida, 90
Wakashan
Kwakiutl, 90
Makah, 90
Indians, United States, 129–155
Algonquian
Arapaho, 129, 149, 153, 154
Cheyenne, 153
Chippewa or Ojibwa, 141, 142, 145, 146, 151, 152
Delaware, 134
Menomini, 151
Micmac, 149
Siksika
Blackfeet, 131
Athapascan (Southern)
Apache, 128, 129, 141, 151, 154, 155
Hopi or Moki, 147
Hupa, 144, 145
Navaho, 132, 135, 139
Caddoan
Pawnee, 139
Wichita, 143
Iroquoian
Seneca, 141
Tuscarora, 131
Kiowan, 88
Muskhogean
Creek
Maskoki, 148
Pueblo. *See* Athapascan and Zunian
Salishan
Clallam, 145
Twana, 145
Shoshonean
Hopi or Moki, 147
Siouan, 131, 142, 145, 150
Mandan, 131, 140, 155
Tanoan
Nambe, 148
Tonkawan
Tonkawa, 152
Vibrating Membranes
North America
Zunian
Zuni, 148
Mexico, 201–203
South America
British Guiana, 229
Brazil, 246
Venezuela, 138
West Indies, 221
Oceanica
Malaysia
Borneo, 20
Java, 9, 10, 15
Philippine Islands, 26
Melanesia
Bismarck Archipelago, 44
New Caledonia, 40
New Guinea, 28, 29
Micronesia, 52
Polynesia
Sandwich Islands, 48
Violin, XVII, 24, 42, 195, 244
Vuhudendung, 36

Wabeno, 145
Waga-moo, 131
Wailaki Tribe, 117
Wakan-chan-cha-gha, 131, 142
Wakashan Family, XIX, 65, 90
Walega, 131
Wa-mnu-ha, 150
Wand rattle, 101
Wartmba, 263
Wasko, 91
Water Drum, 136, 139, 140, 141
Wat-sa-pua, 227, 228
Wazhaze Tribe, 171
Whi, 43
Whirr, 45
Whistles mechanically blown, 73, 74, 75
Whistle Flute. *See* Flutes
Whistling Jar, XXI, 237, 238, 239
Whistling Top, 8
Whizzer, 179
Wiapsiana Indians, 227
Wichita Tribe, 143
Wilmurra, 45, 46
Wind Instruments
America
Central America
Costa Rica, 214–219
Guatemala, 210–241
Nicaragua, 212

Wind Instruments
America
North America
Folk Instruments, 187, 188
Indians, Northwest Coast, 58
Athapascan (Northern), 83
Koluschan, 83
Skittagetan or Haida, 68, 69, 70, 73–76, 82, 84-87
Masset, 86
Wakashan
Aht or Makah, 81
Bellabella, 82, 87
Hamatsa, 75
Kwakiutl, 72, 75
Nootka, 67, 81
Indians, United States
Algonquian, 109, 111, 113, 125, 128
Abnaki
Penobscot, 128
Arapaho, 109, 114, 115
Cheyenne, 114
Chippewa, 110, 125
Micmac, 128
Athapascan (Southern)
Apache, 120, 123, 124, 126, 127
Concow, 117
Hopi or Moki, 110, 122
Navaho, 109, 122
Wailaka, 117
Caddoan, 114
Iroquoian, 109
Cherokee, 110
Seneca, 126
Keresan, 121
Kiowan, 114
Kulanapan
Pomo, 120
Muskhogean, 109,119
Choctaw, 119
Creek, 110
Seminole, 119
Shastan, 117
Shoshonean, 113, 121
Mission, 109, 111
Wind Instruments
North America
Siouan or Dakota, 109, 110, 113, 115, 119, 124
Oglala, 113, 118, 127
Omaha, 110
Winnebago, 110, 119, 120
Tanoan, 121
Takilman
Takelma, 121
Yukian, 116
Yuman, 111
Zunian
Zuni, 110, 115, 121, 122
Mexico, 195–202
South America
Argentine Republic, 240
Brazil, 244, 246
British Guiana, 227
Chile, 241
Colombia, 225
Paraguay, 246
Peru, 235–239
Venezuela, 226
Oceanica
Malaysia
Borneo, 18–20
Celebes, 22
Java, 7
Philippine Islands, 24, 25
Melanesia
Bismarck Archipelago, 42
Fiji Islands, 40, 41
New Caledonia, 40
New Guinea, 27
New Hebrides, 36–39
Solomon Islands, 31–34
Polynesia
New Zealand, 50
Sandwich Islands, 48
Winnebago Tribe, 110, 119, 120
Wis guirra, 223
Wi-towe, 129
Wobbilcong, 45
Wokokwava, 171
Wuntits-u-runtha, 131

Xdeit, 121
Xylophone, 12–14

Yadok, XVI, 15, 16
Yakutat Tribe, 56–58
Yang kong, XVI, 15, 16
Yankton Tribe, 173

Yapurutu, 244
Ye-he-he-ai-ya, 170
Ye-nuf-besse, 131
Yokaia Tribe, 266
Yu, 181
Yukian Family
    Wind Instruments, 111
    Sonorous Substances, 175
Yung-ub-sho-na, 101, 158
Yung-wey-sha-na, 158

ZACAPA, 235
Zampona, 235
Zanzee, 243
Zapotec pottery, 207, 208
Zhegunpi-hopi, 180, 184
Zourna, 15
Zummarah, 19, 41, 225
Zunian Family
    Wind Instruments, 115, 122
    Vibrating Membranes, 135, 136, 147, 148
    Sonorous Substances, 157, 158, 166, 167, 169, 170

OF THIS VOLUME 1,000 COPIES HAVE BEEN
PRINTED DECEMBER, 1913, BY
W. J. L. DAVIDS

LINGUISTIC FAMILIES OF AMERICAN INDIANS

NORTH OF MEXICO

BY

J.W.POWELL.

ARCTIC OCEAN

ESKIMAUAN

ATHAPASCAN

SKITTAGEAN

HAIDAN

CHIMMESYAN

SALISHAN

WAKASHAN

CHIMAKUAN

ATHAPASCAN

SALISHAN

KUSANAN

TAKILMAN

SHAHAPTIAN

WAILATPUAN

QUORATEAN

WEITSPEKAN

CHIMARIKAN

WISHOSKAN

ATHAPASCAN

YUKIAN

KULANAPAN

MOQUELUMNAN

COSTANOAN

ESSELENIAN

SALINAN

CHUMASHAN

SHASTAN

PUJUNAN

WASHOAN

MOQUELUMNAN

YANAN

YOKUTSAN

PENUTIAN

SHOSHONEAN

KEWANEE

ATHAPASCAN

KIOWAN

TANOAN

SHOSHONEAN

KERESAN

ZUNIAN

UMAUAN

ATHAPASCAN

PIMAN

SERIAN

YUMAN

DIEGUEÑO

COAHUILTECAN

CADDOAN

TONICAN

NATCHESAN

TONKAWAN

ATTACAPAN

KARANKAWAN

CHITIMACHAN

ALGONQUIAN

IROQUOIAN

SIOUAN

YUCHEAN

MUSKHOGEAN

TIMUCUANAN

ARAWAKAN

CARIBEAN SEA

GULF OF MEXICO

Tropic of Cancer

ARCTIC OCEAN

CHUKCHI SEA

BERING STRAIT

NE SIBERIA

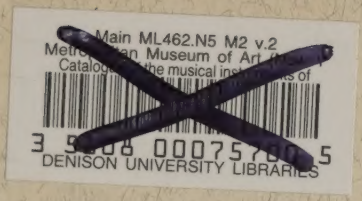
BERING SEA

ALEUTIAN ISLANDS

ALEUTIAN ISLANDS

Date Due

MAR 10 '52			
NOV 2 '53			
JAN 21 '57			
[illegible]			
11-28-92	IDU		



75573

ML
462
.N5M2
v.2

S0-DLP-867